

# APPLIED ECONOMICS CONFERENCE: LABOUR, HEALTH, EDUCATION AND WELFARE

BOOK OF ABSTRACTS

EDITORS

**LARA LEBEDINSKI  
DEJANA PAVLOVIĆ  
SUNČICA VUJIĆ**

**INTERNATIONAL  
SCIENTIFIC  
CONFERENCE:  
APPLIED ECONOMICS  
CONFERENCE:  
LABOUR, HEALTH,  
EDUCATION AND  
WELFARE**

October 28-29, 2021  
Belgrade, Serbia



INSTITUTE  
OF ECONOMIC  
SCIENCES



University  
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# **APPLIED ECONOMICS CONFERENCE: LABOUR, HEALTH, EDUCATION AND WELFARE**

## **BOOK OF ABSTRACTS**

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**Lara Lebedinski  
Dejana Pavlović  
Sunčica Vujić**

**International scientific conference:  
APPLIED ECONOMICS CONFERENCE:  
LABOUR, HEALTH, EDUCATION AND WELFARE**

October 28-29, 2021  
Belgrade, Serbia

*Publisher:*

**Institute of Economic Sciences**

Zmaj Jovina 12, Belgrade, Serbia

Tel. (+381 11) 2622-357, 2623-055

Fax. (+381 11) 2181-471

www.ien.bg.ac.rs

office@ien.bg.ac.rs

*For publisher:*

Dr Jovan Zubović, Director

*Printed by*

Donat Graf, Belgrade

Circulation

80

Image on the cover page: Designed by Stefan Jelić Mariokov

ISBN 978-86-89465-59-4

This Book of Abstracts is co-financed by the Ministry of Education, Science and Technological Development of Republic of Serbia.

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## **DIGNITY BY DECREE? THE OCCUPATIONAL CONSEQUENCES OF ITALY'S TEMPORARY JOBS REFORM**

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### **MOTIVATION**

Temporary employment contracts are controversial: supporters claim that they provide sizable employment gains; detractors maintain that they constitute a precarious form of work. Moreover, temporary contracts are used with different frequency across different social and gender groups, thereby contributing to some key dimensions of social inequality. We study the Dignity Decree (D.D.), a first-in-its-kind 2018 reform that increased the strictness of temporary jobs regulation in Italy.

### **POLICY RELEVANCE**

When during the 1980s and '90s unemployment rates started to pick up in many European countries, policymakers in these countries started to reform their body of Employment Protection Legislation (EPL). Rather than embarking in the politically costly endeavor of reforming the legislation covering permanent employment contracts, many governments opted for facilitating the use of temporary employment contracts. The D.D. is the first reform to invert this long trend of labor market liberalizations in Europe.

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## Parallel Sessions I, Stream A: Labour 1

### **RESEARCH QUESTIONS**

#### *Context Specific:*

Did the D.D. cause the switch from temporary to permanent starting in 2018?  
Who are the winners and losers of the policy?

How did the different policy levers affect the observed outcomes?

#### *Counterfactuals:*

Do regulatory interventions that go in opposite directions have specular effects?

Would such a reform produce similar effects during a different phase in the business cycle?

### **METHODOLOGY**

We produce reduced form evidence of the policy effects using a regression model. We rely on an event-study design with a continuous treatment: running different regressions for different contract types, we compared the change in our outcomes (gross and net labor flows, turnover, ...) for firms that were more exposed to the policy to those firms that were less exposed. We measured policy exposure using long-run reliance on temporary employment in the years up to 2017.

### **RESULTS**

Higher exposure to the D.D. triggered lower gross hiring and lower net employment flows for temporary contracts and a parallel increase in employment flows for permanent contracts, driven principally by a surge in conversions from temporary to permanent contracts in the aftermath of the policy intervention. We document larger slowdown in total employment growth for the high-exposure group of firms, which does however not appear large enough to bring overall occupational growth into negative territory.

### **CONTRIBUTION**

This paper contributes to two main strands of literature. First, it adds to the restricted set of works studying the effects of partial employment protection reforms, that is, interventions on labor market flexibility enacted only through changes in the regulation of temporary contracts. Second, it links with the very

## Parallel Sessions I, Stream A: Labour 1

broad set of works on two-tier labor markets, which concentrates on the divide between temporary and permanent jobs and the effects of this divide for different groups of workers.

### KEY WORDS

Labor market structure, employment creation, temporary jobs, employment protection legislation

### JEL CLASSIFICATION

J08, J41, J48, J63

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## Parallel Sessions I, Stream A: Labour 1

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## THE IMPACT OF ROBOTS ON LABOUR MARKET TRANSITIONS IN EUROPE

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### MOTIVATION

In 2000-2016 robot intensity, measured by the number of robots per 1000 workers, has quadrupled in Europe. In high-income countries, robot adoption increased GDP, labour productivity and wages. It has also ignited fears of job losses. The evidence is mixed: robot adoption had negative effects on the employment in the US, but in Germany the decline in manufacturing employment was offset by an increase in the service sector. The reasons for such cross-country differences remain largely unexplored.

### RESEARCH QUESTION

What is the effect of increased robot exposure on job separation and job finding rates in European countries? Which factors can explain the cross-country variation in the effects of robots (labour costs, institutions)? Which worker groups are particularly affected?

### METHODOLOGY

As robot adoption may be endogenous to economic conditions in a sector/country we use control function approach. We instrument robot exposure in particular

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## Parallel Sessions I, Stream A: Labour 1

country and sector with the average robot exposure in the same industries in other Western European countries in our sample. Instrument is standardized by 1995 employment levels to provide additional exogeneity.

### RESULTS

First, robot adoption had a significant but small, negative effect on the probability of job separations and small, positive effect on the probability of job findings in EU countries. Second, the effects of robot adoption are the most pronounced among workers in occupations intensive in non-routine manual tasks. Third, we find a noticeable cross-country heterogeneity of the effects of robot adoption on the probability of job separations in countries at various development level.

### CONTRIBUTION

First, we focus on labour market flows, rather than employment stocks. This is a vital aspect of the labour-market effects of robots, as both job security and unemployment duration (proxied by the transition rates) are crucial determinants of the well-being of workers. Second, we are able to identify the effect of robotization at the individual level for a large number of European countries. Third, differences in labour costs and institutions can explain cross-country differences to an extent.

### KEY WORDS

Robots, technological change, tasks, labour market effects

### JEL CLASSIFICATION

J24, O33, J23

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## **PARENTAL TIME INVESTMENTS AND INSTANTANEOUS WELL-BEING IN THE UNITED STATES**

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### **MOTIVATION**

In most developed countries, more educated mothers tend to do more child care (Guryan et al., 2008), despite the higher opportunity cost of their time. Theories which explain this phenomenon by arguing that education gives mothers a higher marginal return to their time in human capital production (e.g. Ramey and Ramey, 2010; Doepke and Zilibotti, 2017; Chiappori et al., 2015) are found wanting on empirical grounds (Cunha et al., 2010; Agostinelli and Wiswall, 2020).

### **RESEARCH QUESTION**

We investigate whether the positive education/childcare gradient arises from purely hedonic considerations or from differing patterns of socialization across class lines. I.e. do more educated mothers prefer to spend more time in child rearing activities because they like it more, or because they face more social pressure?

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## Parallel Sessions I, Stream B: Welfare - Family, Children and Social Expenditure

### **METHODOLOGY**

We use the Well-being Modules of the American Time Use Survey to document the levels of instantaneous well-being during childcare activities for mothers of various education levels. We furthermore propose an Identity Economics model (Akerlof and Kranton, 2000) to instead explain the education/childcare gradient in terms of a competition for social status. Two social identity categories are proposed: one with high prestige but intense scrutiny and another with lower prestige and relaxed scrutiny.

### **RESULTS**

Despite spending about 30 minutes more in childcare per day, higher educated mothers report lower levels of instantaneous well-being during these activities. Our results hold after controlling for a wide set of confounds, including life satisfaction. Our model provides a suggestion as to why: mothers with more education choose an identity which places high value on human capital outcomes. This confers high social prestige but requires costly investments to maintain a separating equilibrium.

### **CONTRIBUTION**

We contribute to the literature on socioeconomic status and parenting styles by 1) bringing evidence on the hedonic experiences of mothers and 2) proposing a model which explains the stylized facts without appealing to increasing returns to human capital production or ad-hoc preference assumptions. As the extra time that educated mothers spend with their children is a likely vector for the intergenerational perpetuation of inequality (Kalil and Ryan, 2020), social policy options are suggested.

### **KEY WORDS**

Intensive parenting, instantaneous well-being

### **JEL CLASSIFICATION**

D13, I21, I31, J13, J60

## Parallel Sessions I, Stream B: Welfare - Family, Children and Social Expenditure

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## **WELFARE EFFECTS OF THE LABOR INCOME TAX CHANGES ON MARRIED COUPLES**

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### **MOTIVATION**

Taxation of couples is of crucial importance for the policymakers. First, the scope is significant. For example, married couples account for almost a half of all the U.S. households. Second, positive assortative mating between spouses, as one of the driving forces of income inequality, creates the scope for redistribution through the tax and transfer system. Finally, tax systems in many countries, e.g. Germany and the U.S., create strong disincentive effects for the married women's labor supply.

### **RESEARCH QUESTION**

In this paper, I ask the following research questions. What are the welfare effects on married couples from labor income tax reforms? How are the welfare gains and losses distributed across the couples? To get the quantitative results, I apply my framework to four tax reforms implemented in the United States: the Tax Reform Act of 1986, the Omnibus Budget Reconciliation Act of 1993, the Economic Growth and Tax Relief Reconciliation Act of 2001, and the Tax Cuts and Jobs Act of 2017.

### **METHODOLOGY**

I build a static model of joint household labor supply and derive a sufficient statistic formula that maps empirically estimable objects into the measure of the reform-induced changes in deadweight losses. Next, I apply this framework to four tax reforms implemented in the United States, using the Current Population Survey data and NBER TAXSIM tax calculator. Finally, I derive the analytical expressions for bias in marginal deadweight loss resulting from linearizing the tax function for couples.

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## Parallel Sessions I, Stream B: Family, Children and Social Expenditure

### RESULTS

First, I find that the reforms created welfare gains ranging from -0.16% to 0.60% of the aggregate labor income. Furthermore, I highlight the quantitative importance of accounting for spousal cross-elasticities. Second, I show that the aggregate welfare measures mask significant heterogeneity. For example, TRA 1986 reform creates almost 81% winners and 16% losers. Moreover, the welfare gains are increasing in labor income. Finally, I calculate the linearization bias in the U.S. to be 9.05%.

### CONTRIBUTION

My contributions are twofold. First, I extend the framework of Eissa et al. (2008) and study the welfare effects of tax policy by modeling the households as couples rather than singles. Quantitatively, I show that the same reform may have different effects on couples and singles. Second, I extend the framework of Blomquist and Simula (2019) and derive the expressions for marginal deadweight loss under nonlinear tax functions and resulting linearization bias when households are modeled as couples.

### KEY WORDS

Taxation of Couples, tax reforms, welfare analysis, labor supply, linearization bias

### JEL CLASSIFICATION

D61, E62, H31, J22

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## **SOCIAL EXPENDITURE COMPOSITION AND INEQUALITY IN OECD COUNTRIES: DO WELFARE STATE REGIMES MATTER?**

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### **MOTIVATION**

One of the main roles of the welfare state is to influence income inequality, with however inequality on the rise in many developed countries at least since the 1980s (Anderson et al. (2017)). According to Solt (2020), the average Gini coefficient for the OECD countries has been gradually increasing since the 1980s, recording a value of 29 in 1980 and 31.1 in 2015, where the USA and the United Kingdom stand out with Ginis going from 31.6 to 38.1 and from 27.1, to 32.9.

### **RESEARCH QUESTION**

What difference do welfare state regimes make for social expenditure and respective composition influences income inequality? The aim of this paper is to answer this research question focusing on OECD countries over the period 1990-2015, investigating how the different welfare arrangements that characterize the sample of countries under analysis mediate the impact of the composition of the welfare state, defined based on the OECD Social Expenditure database, plus education, on income inequality.

### **METHODOLOGY**

The empirical fixed effects panel model considers the Gini coefficient as dependent variable and as explanatory variables of interest ten different components of social spending, alongside a set of control variables identified in previous literature. The mediating role of welfare state regimes is assessed by introducing interaction terms

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between the social expenditure variables and a dummy for each specific welfare model (Nordic, Continental, Anglo-Saxon, Mediterranean, CEEC and Others).

### **RESULTS**

The components of social expenditure that reveal a statistically significant association with inequality are old age pensions, health, housing and family benefits. However, the sign of the association varies with the welfare state regime and only in the residual welfare regime that we designated as Others are the former components of social spending always inequality reducing, while in the remaining cases some components increase inequality.

### **CONTRIBUTION**

Our work paves the way for future research that sheds light on the differences found across regimes based on a more detailed analysis of the characteristics of welfare models that render social policy a design more effective in reducing income inequality.

### **KEY WORDS**

Social expenditure, welfare programs, income inequality, welfare state regimes, OECD

### **JEL CLASSIFICATION**

H1, I38, P5

### **ACKNOWLEDGEMENTS**

This research received financial support from COMPETE 2020, Portugal 2020 and the European Union [POCI-01-0145-FEDER-029365]; and from the Fundação para a Ciência e Tecnologia I.P./MCTES through national funds (PIDDAC) [PTDC/EGE-ECO/29365/2017]. This research was also supported by a grant from FCT reference UIDB/05037/2020.

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## **CHILD POVERTY THIRTY YEARS AFTER THE BREAK UP: COMPARATIVE ANALYSIS OF THREE FORMER YUGOSLAV COUNTRIES**

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### **MOTIVATION**

Slovenia, Croatia and Serbia, although sharing the same welfare state for decades followed different welfare state trajectories after the breakup of Yugoslavia. We argue that this has impacted child poverty levels that are varying substantially among the countries: Slovenia has one of the lowest child poverty rates in the EU, Croatia is at the EU average level of child poverty while Serbia is among the countries with highest levels of child poverty in Europe.

### **RESEARCH QUESTION**

Our research question aims to explain differences in child poverty rates between Slovenia, Croatia and Serbia, with the special focus on different welfare state trajectories. We investigate to what extent social transfers achieve to pool children out of poverty, especially family benefits.

### **METHODOLOGY**

Using 2018 Survey on Income and Living Conditions data and bivariate probit model we estimate the probability to be poor before social transfers and to receive social transfers, and probability to remain or exit poverty after receiving social transfers. We estimate those probabilities jointly, since both observables and unobservables

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can at the same time influence probability to be poor before social transfers and to receive social transfers.

### RESULTS

We found that family benefits are especially effective in pooling children out of poverty in Slovenia and much less in Croatia. In Serbia, pension benefits have strongest effect on child poverty reduction due to significant share of children living in multigenerational households. Universality of family benefits in Slovenia, accompanied with high employment of parents, lead to low levels of child poverty. Contrary to Slovenia, child poverty in Serbia is high due to large share of children whose parents are out of work and low coverage of family benefits.

### CONTRIBUTION

We investigate child poverty in three ex-Yugoslavia countries in a comparative perspective. Our research offers insights into most important determinants of poverty and policies that could pool children out of poverty. Current economic crisis caused by the pandemic threatens to hit families with children the hardest, therefore economic and social policies should be carefully considered especially in countries with high child poverty rates.

### JEL CLASSIFICATION

C35, I32, J13

### KEY WORDS

Child poverty, welfare state, social transfers, ex-Yugoslavia

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## **WESTERN BALKANS LABOUR MARKET POLICIES RESPONSE TO COVID-19**

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### **MOTIVATION**

During the Covid-19 pandemic many governments have implemented large socio-economic packages, providing massive fiscal support to protect employment, households and vulnerable populations. The focus of this research is on the types and effects of employment-related measures of the governments of the Western Balkan (WB) countries. These countries were chosen because they are not in the system of EU assistance, so that the effects of the implemented measures can be assessed objectively.

### **RESEARCH QUESTION**

Employment-related measures of the governments in the region were: compensation of salaries to companies in order to preserve employment, financial assistance and facilitation of business to enterprises, with the condition of retaining all workers or without this condition, measures relating to certain categories of employees or sectors, etc. The research question is what effects these measures have produced individually or in combination on the number of employees in WB countries.

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## **METHODOLOGY**

Methodology of research includes *cost-benefits analysis* of particular employment-related measures applied by WB governments, as well as *statistic description* and *comparison* of employment and unemployment in WB countries during the pandemic.

The biggest obstacle to the effectiveness of all measures is the invisible informal segment of economy.

## **RESULTS**

The research found that, among the employment-related measures applied in WB countries, all types of assistance to companies had a positive effect, but the long-term effects would be only possible by making the assistance conditional on keeping the workers for a long period.

In all six countries it is necessary to revise the records of socially vulnerable categories of population.

## **CONTRIBUTION**

The research reveals which measures were successful and which were not, as well as reasons for particular effects, specific for every WB country. Thus, this research provides elements for establishing strategies and procedures for different crisis scenarios.

## **KEY WORDS**

Unemployment, employment-related measures, fiscal support, Covid-19

## **JEL CLASSIFICATION**

J08, J48

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## **THE IMPACT OF COVID-19 PANDEMIC ON LABOUR MARKET OUTCOMES OF VULNERABLE GROUPS IN SERBIA**

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### **MOTIVATION**

The COVID-19 pandemic is an unprecedented pandemic which impacted both globally the economy and everyone's life at an individual level. It is important to understand the impact of such an unprecedented shock on individual economic outcomes.

### **RESEARCH QUESTION**

In this paper we examine the impact of the COVID-19 pandemic on labor market outcomes of vulnerable groups in Serbia. We consider the following groups to be vulnerable: youth, female, low educated individuals, population from Southern and Eastern Serbia and rural population. We study the impact of COVID-19 on the following outcomes: employment, absenteeism and hours worked.

### **METHODOLOGY**

We use the difference-in-differences methodology and we compare outcomes before (2019) and after (2020) the effects of epidemic occurred for the groups that

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we identified as potentially vulnerable. We do the analysis for each vulnerable group and quarter separately. To ensure that our results are robust and not driven by trends, we perform the so-called placebo tests where we assume the placebo treatment year to be 2019.

### **RESULTS**

According to our findings, the low educated and the population from the Southern and Eastern Serbia were somewhat negatively affected by the pandemic in the year 2020. The remaining three groups experienced only transitory short-term shocks. The relatively small negative impacts are in line with the overall situation on the labour market during COVID-19 which suggests that there was only a short-term shock.

### **CONTRIBUTION**

We contribute to the literature on the economic impact of the COVID-19 pandemic by studying the labour market situation during the pandemic for the case of Serbia. Our study focuses on vulnerable groups who were at a higher risk of social exclusion even before the pandemic and who could be pushed into social exclusion and poverty in times of negative economic shocks.

### **KEY WORDS**

Employment, vulnerable groups, COVID-19

### **JEL CLASSIFICATION**

J20, J11, J16

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## **AMIDST THE CHAOS: THE BALKAN LABOR MARKETS' DYNAMICS IN THE ERA OF THE COVID-19 PANDEMIC**

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### **MOTIVATION**

The crisis triggered by the global COVID-19 pandemic has created undeniable chaos in the world's labor markets, with disruptions unprecedented in the modern era. The pandemic's complexity and unexpectedness of this health phenomena's appearance have led to strong labor market shocks in both developed and developing countries (Hershbein & Holzer, 2021; ILO, 2020; Jolović, 2020; Lee et al., 2020; Petrosky Nadeau & Valletta, 2020). Recognition of the literature gap and cognition that the Balkan countries did not remain immune to the COVID-19's "new normality" motivated the emergence of this research.

### **RESEARCH QUESTION**

The main research question is framed in light of the ongoing impact of the COVID-19 pandemic on Balkan labor markets. It investigates the existence, strength, and direction of correlation between pandemic indicators (number of confirmed COVID-19 cases and fatalities) and unemployment in selected Balkan countries. The research question's splendor is reflected in the diversity of the observed countries, which are, although located in the same area, characterized by utterly different levels of labor markets' development and success in overcoming the pandemic challenges.

### **METHODOLOGY**

This paper's theoretical and empirical analysis follows many current approaches to similar research issues (Davidescu et al., 2021; De Araujo Oliveira & Goes, 2020;

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Dritsaki & Dritsaki, 2020; Gallant et al., 2020; Rodríguez Caballero & Vera Valdés, 2020; Su et al., 2021; Svrtinov et al., 2020; World Bank, 2021) in order to address raised research question on the sample of several Balkan countries - Croatia, Montenegro, Romania, Serbia, and Slovenia. The dataset extracted from the Trading Economics platform (2021) consists of monthly unemployment rates and COVID-19 confirmed cases/deaths data and covers the period from December 2019 to December 2020. On the collected data we firstly conducted detailed descriptive statistics for the five economies involved, and then, in order to determine the existence/strength/direction of the potential relationship between the unemployment and COVID-19 indicators, we performed a correlation test.

### RESULTS

Descriptive statistics of the five Balkan economies showed that Montenegro's unemployment rate recorded the most variations in the observed period (+/- 25.4%). Additionally, from the first 12 months of the pandemic, Romania emerged as the most affected Balkan country - with the highest number of COVID-19 cases (623,000) and deaths (15,600) registered. Pearson correlation coefficient results reveal the existence of a strong positive significant correlation between COVID-19 cases/deaths and unemployment in Romania (0.763\*\*/0.818\*\*) and Montenegro (0.777\*\*/0.792\*\*) over the pandemic period. On the other side, during the same period, the correlation between COVID-19 cases/deaths and unemployment was quite strong in Croatia (0.480/0.477) but very weak in Slovenia (0.161/0.209). This can be explained by the fact that Slovenia represents the country with the best economic/social position among these economies, which has managed to maintain unemployment at almost a pre-pandemic level throughout 2020. Additionally, the correlation between COVID-19 cases/deaths and unemployment in Serbia can be labeled as a strong negative significant correlation (-0.685\*\*/-0.718\*\*), which implies that COVID-19 most likely produced additional online job opportunities and consequently reduced unemployment.

### CONTRIBUTION

The constructive contribution of this paper largely emanates from its research nature - it explores the current and undetected impact of the COVID-19 pandemic on labor markets' dynamics of developing Balkan economies. In addition to contributing to the existing literature on pandemics' impact on labor, the study is expected to encourage policy debates among Balkans on how COVID-19 affected

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(and how potential future pandemics may affect) their economies, all with the aim of accelerating individual and collective responses to similar events in the future.

### KEY WORDS

Unemployment, COVID-19 cases, COVID-19 deaths, Balkan countries, Europe

### JEL CLASSIFICATION

E24, J01, J64

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## **A PROFILE OF YOUTH NOT IN EMPLOYMENT, EDUCATION OR TRAINING (NEET) IN SERBIA**

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### **MOTIVATION**

Serbian youth face an extreme disadvantage for their entry into the labor market, particularly for those unemployed as well as not in the process of education or training (NEET). According to statistical data (2020) the NEET rate of the Republic of Serbia (RS) is 27%, almost 12 p.p. higher compared to the EU's average. Regardless of their position, research into NEET youth in the RS is relatively rare, generally focusing on their position within the context of overall youth employment.

### **RESEARCH QUESTIONS**

In the paper, we analyze the characteristics of NEET in Serbia. To do so we consider the following research questions:

- What sections of youth are most likely to be placed within NEET according to the following criteria: gender, area of residence (urban/rural), region, education-level achieved and material situation of the household?
- What socio-demographic characteristics are associated with the risk of being unemployed and inactive in the labor market?
- Does any significant relationship exist between gender and NEET?
- If so, is there an equal distribution between both males and female NEET?
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## **METHODOLOGY**

To analyze their characteristics in order to define a profile of youth, microdata for 2019 were used from the LFS<sup>1</sup> IV wave, as provided by the SORS<sup>2</sup>. Using logistic regression, the research methodology defines the characteristics of youth aged 15 to 35, who are neither employed, nor in the process of education or training. Here, we analyze the socio-economic factors defining the position of active in the labor market. While the dependent variable in the regression model is active employment itself, the independent variables are classified into four categories.

## **RESULTS**

Rural youth are at a higher risk (1.5 more likely) of being NEET compared to urban youth. Sumadija and Western Serbia as well as Southern and Eastern Serbia youth are at a higher risk of being NEET compared to youth from Belgrade and Vojvodina. Young women are 2.5 times more likely than young men. With every subsequent level of education achieved as well as with an improvement in their family's material situation, the likelihood of being NEET decreases.

## **CONTRIBUTION**

The results of this novel research will better serve decision and policy makers in implementing future strategies to assist NEET.

Furthermore, the paper will contribute to the scientific literature in Serbia. Considering that this is the first survey focusing on NEET youth in Serbia based on the microdata of the Labor Force Survey. All previous NEET surveys have been based on secondary statistics or online survey data.

## **KEY WORDS**

NEET, Serbia, labor market, youth

## **JEL CLASSIFICATION**

J01, J13, J21, J64

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<sup>1</sup> Labour Force Survey

<sup>2</sup> Statistical Office of the RS

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## **PRIMARY VS SECONDARY SCHOOL INTERVENTION**

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### **MOTIVATION**

Human capital accumulation is a dynamic process. The skills acquired in one stage of the life cycle affect both the initial conditions and the technology of learning at the next stage. There is evidence suggesting that targeted, early interventions aimed at disadvantaged children are effective in reducing inequalities in cognitive development and subsequent social outcomes and thus, investments in the early years are increasing. However, the question of the optimal timing to intervene remains.

### **RESEARCH QUESTION**

The aim of this article is to analyze the effectiveness of educational interventions that take place at different ages in an individual's life. To do so, we analyze two programs implemented in the region of Madrid (Spain) in the last years: one targets public primary schools and the other public secondary schools. Both offer remedial education to students with poor performance and from disadvantaged socioeconomic environments, in a similar way but at different points in time of the school cycle.

### **METHODOLOGY**

Our outcomes of interest are the standardized test scores and the percentage of students passing the exams at the end of both primary and secondary school. We

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employ two main empirical approaches: a difference-in-difference, and an event study. By considering the schools' characteristics, we also re-weight the sample of students in control schools such that they can provide a more balanced counterfactual to students in treated schools using the entropy balancing method (Hainmueller, 2012).

### **RESULTS**

We find that the remedial programs have a positive and statistically significant impact on test scores (around 0.3 SD) and on the passing rates (6 to 8 pp). There is a differential impact depending on the point in time in the education cycle for math but not for language: math test scores increase 0.36 SD more in primary than in secondary treated schools, and its passing rate is about 10 pp higher. Moreover, the smaller the remedial classes and the more migrants treated, the higher are the impacts.

### **CONTRIBUTION**

Our contribution is two-folded. First, we provide new evidence on the optimal timing of educational interventions aimed at improving outcomes of disadvantaged children. Second, we add to studies on the impact of remedial education programs on cognitive skills. The current paper departs from the previous works (Heckman, 2000; Lavy & Schlosser, 2005; Lavy et al. 2020) by studying the impact of these interventions also on primary school students and provides new evidence on their more productive timing.

### **KEY WORDS**

Primary and secondary School, remedial interventions

### **JEL CLASSIFICATION**

H52, I21, I23, J24, J31

## Parallel Sessions II, stream A: Interventions in Education and Returns to Education

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Parallel Sessions II, stream A: Interventions in Education and Returns to  
Education  
**LONG-LASTING EFFECTS OF COMMUNIST INDOCTRINATION IN  
SCHOOL: EVIDENCE FROM POLAND**

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## **MOTIVATION**

Education plays a role in passing on values conducive to desirable economic outcomes (Sianesi and Reenen, 2003; Acemoglu and Angrist, 1999). However, in autocratic regimes, school indoctrination is used to reduce political dissidence and nurture regime loyalty, by inculcating a set of beliefs accepted uncritically. The set of values instilled may have adverse impacts on individuals living in autocratic regimes, which accounts for more than 1.7 billion people worldwide.

## **RESEARCH QUESTION**

This paper examines the long-term effects of school indoctrination to Marxism-Leninism. Specifically, we assess the impact of a school reform that reduced substantially the Marxist-Leninist contents from the curricula starting from the school year 1954/55, following the death of Stalin in 1953.

## **METHODOLOGY**

We use a difference-in-difference strategy comparing individuals born just before and after the cut-off date in school classes affected by the reform (already enrolled in school when the reform was implemented) and in school classes unaffected by the reform.

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### **RESULTS**

The results of the analysis suggest that the removal of Marxism-Leninism from the curricula in the mid 1950's had beneficial effects on the probability of completing secondary education, attending university and labour force participation. We interpret these results as strong evidence for the negative effects of Marxist-Leninist indoctrination on human capital investments and labour market outcomes.

### **CONTRIBUTION**

This article contributes to the growing literature on the long-term consequences of values and attitudes (Hansen, 2013; Granato et al., 1996). Specifically, this paper documents the long-term effects on economic behaviours, in particular on such crucial welfare determinants as labour force participation and human capital accumulation.

### **KEY WORDS**

Indoctrination, communism, school, labour market outcomes

### **JEL CLASSIFICATION**

I25

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Parallel Sessions II, Stream A: Interventions in Education and Returns to Education

## **FROM THE CLASSROOM TO MATERNITY WARD AND PUBLIC WORKS: WHAT HAPPENS WHEN COMPULSORY SCHOOL LEAVING AGE IS DECREASED?**

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### **MOTIVATION**

Over the last several decades, governments around the developed world have gradually increased the compulsory schooling age. While there is ample empirical evidence on the causal effects of longer schooling, as governments rarely decrease the school leaving age, we know very little about what happens when compulsory schooling is shortened. In this paper we provide new evidence on the effects of decreasing the school leaving age from 18 to 16 on female teenage outcomes at ages 16-18 in Hungary.

### **RESEARCH QUESTION**

While there is ample empirical evidence on the causal effects of longer schooling, as governments rarely decrease the school leaving age, we know very little about what happens when compulsory schooling is shortened. This paper tries to fill this

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## Parallel Sessions II, Stream A: Interventions in Education and Returns to Education

gap and answers the question on the effects of decreasing the school leaving age from 18 to 16 on female teenage outcomes at ages 16-18 in Hungary: fertility, employment, unemployment, public works participation and being NEET.

### **METHODOLOGY**

We use administrative data and apply a difference-in-differences (DiD) identification strategy, based on the introduction of the reform. We define the treated and control cohorts based on the completion time of primary school: those who completed primary school before (in 2010 and 2011) and after (in 2012 and 2013) the reform. Using these four cohorts, we estimate DiD regressions to examine the causal effects of the reform on the probability of dropping out of school, the probability of teenage motherhood, the probability of being a NEET and the probability of participating in public works programs.

### **RESULTS**

We find that the reform increased the probability of dropping out of school at age 16-18 by 118%. The effects are the largest for the most disadvantaged group – those whose mothers have at most a primary education degree. In this latter group, the reform increased the probability of teenage motherhood by 4.9pp. We find no effects on the probability of teenage abortions. We also find evidence that the reform increased the probability of being a NEET and of participating in public works programs.

### **CONTRIBUTION**

We contribute to the literature by looking at the effects of decreasing the compulsory school leaving age. To the best of our knowledge, ours is the first paper to investigate the comprehensive causal effects of such reform. We show that the reform had detrimental effects on the most vulnerable students and thus it is expected to increase social inequalities on the long run.

### **KEY WORDS**

Education, teenage fertility, compulsory school leaving age, public works

## Parallel Sessions II, Stream A: Interventions in Education and Returns to Education

### JEL CLASSIFICATION

I26, J13, O15

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## **EDUCATION AND FERTILITY TIMING: DO QUALIFICATIONS MATTER?**

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### **MOTIVATION**

Teenage fertility rates in the United Kingdom (UK) are the highest in Western Europe, and second only to the United States (US) in the developed world. There are also concerns with delays in fertility. Policy makers have focused on the drivers of both teen fertility and delays in childbearing. What has been examined less is the role of education for the fertility timing decisions.

### **RESEARCH QUESTION**

We examine the effect of education, and the importance of qualifications in particular, and the role they can play in reducing the probability of a teen birth. We further focus not just on teen births but also examine the extent to which fertility is delayed.

### **METHODOLOGY**

We use a feature of the schooling system that led some individuals, due to their month of birth, to be able to leave the school before taking the final high school exams, and so could leave without having a qualification – the Easter Leaving Rule (ELR). The ELR determined exactly when in the school year people could leave school. Depending on their birthday, children faced one of the two possible leaving dates, the end of the Easter term or the end of the summer term. After the minimum school leaving age rose to 16 in 1973, the age at which the first set of high

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stakes exams is typically taken in the UK, late leavers were significantly more likely to obtain academic qualifications. This raising of the school leaving age, effectively switching on the ELR, means that we are able to introduce a control group (those not affected by the change in the school leaving age) into the regression discontinuity set up. This results in a regression discontinuity difference-in-differences (RD-DD) strategy.

### RESULTS

The improvements in qualifications as a result of the ELR did not lead to a reduction in the probability of having a child as a teenager. However, we do find that this source of variation in education led to delays in having a first child. We show the importance of our RD-DD strategy in estimating the effect of the ELR by presenting estimates from a more typical RD (non-parametric) approach. These results would erroneously conclude that the ELR led to a reduction in teen births.

### CONTRIBUTION

This is the first paper that utilises the Easter Leaving Rule (ELR) in order to investigate the relationship between education, measured by qualifications, and fertility timing.

### KEY WORDS

Education, fertility timing, Easter leaving rule

### JEL CLASSIFICATION

I26, J13

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**Stream B: Labour 2**

**FROM BRICKLAYERS TO WAITERS: LABOR MARKET  
ADJUSTMENT OF SPANISH WORKERS DURING THE GREAT  
RECESSION**

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**MOTIVATION**

The burst of the Spanish property bubble destroyed millions of jobs, including in the most affected construction sector. A crucial question for labor economists and policymakers is how do workers react to such negative shocks? Contrary to classical findings, recent studies find adjustment is slow and that geographical mobility plays little importance on the worker's adjustment process. Therefore, alternative mechanisms should be studied.

**RESEARCH QUESTION**

This article addresses mainly two questions. First, how persistent in the earnings and employment trajectories of workers is the shock? After documenting these causal impacts, I study the extent to which the local sectoral composition contributes to attenuate the shock's impact on workers' career outcomes.

**METHODOLOGY**

I rely on longitudinal data that tracks all the worker's labor market history and complete data on the worker's relevant characteristics to avoid potential biases. To study the role of sectoral composition in the adjustment of workers I construct an index that captures the likelihood of transitioning from the construction sector to any other sector (*reallocation index*). The measure is based on workers' characteristics and their province of residence before the shock.

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## **RESULTS**

Workers whose characteristics are less concentrated among sectors are less affected as they are more likely to change sector. One implication is that high sectoral concentrations in a region may impede worker's ability to adapt to economic shocks. These findings suggest that short-term labor market adjustments tend to be intersectoral rather than inter-regional, even under asymmetric regional exposure.

## **CONTRIBUTION**

The first part of the paper contributes to the large literature on job displacement, by documenting the impact on worker's career outcomes from a large shock during the Great Recession. The second part of the paper mainly contributes to the literature on labor market adjustment by documenting the role of sectoral composition in the sectoral reallocation decision of workers.

## **KEY WORDS**

Great Recession, migration, sectoral reallocation

## **JEL CLASSIFICATION**

J23, J31, J63

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## **NATURAL DISASTERS AND ENTERPRISE RECOVERY: A GENDER APPROACH**

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### **MOTIVATION**

Natural disasters are massive challenges for humans along the history. Such large-scale events kill 60,000 people per year, and account for 0.1% of global deaths. Out of highly vulnerable groups, micro, small and medium enterprises (MSMEs) were affected drastically by catastrophic weather events in both developing and developed nations. One constraint that MSMEs face in developing countries is lack of access to finance, hence several organizations focus on supporting those firms with grants.

### **RESEARCH QUESTION**

This paper explores gender differences in grant impacts on firm performance following natural disasters, and potential mechanisms that are behind the main findings.

### **METHODOLOGY**

We utilize a panel dataset from an experiment in Sri Lanka after the 2004 tsunami, which was implemented by researchers from the World Bank and partner universities. The experiment focused on low capital enterprises in three coastal districts. A baseline survey was implemented in April 2005 after a screening survey of households from the 2001 census. Following the baseline survey, the research group randomly assigned one-time grant of either 10,000 or 20,000 Sri Lanka rupees to enterprises.

### **RESULTS**

Our results suggest that capital grant has a significantly positive impact on business performance of male-owned firms, but zero effect on that of female-owned firms.

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There are several potential mechanisms that drive the results, including gender differences in business investment, in household expenditures and in business closure. Additionally, we find a positive effect of treatment on business owners' psychological recovery, but we do not find evidence supporting gender bias in this dimension.

### CONTRIBUTION

Firstly, we report evidence in gender differences in firm performance after receiving grants in developing countries. The findings are aligned with several studies in other locations. Secondly, to the best of our knowledge, this is the first study that documents gender disparities in initial business closure following natural disasters. Lastly, we provide novel findings in the relationship between capital grants and psychological recovery of entrepreneurs.

### KEY WORDS

Gender, microenterprises, natural disasters

### JEL CLASSIFICATION

J16, L26, Q54

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## **LATENT DEPENDENCY CLASSES ACCORDING TO NEED FOR HELP WITH ACTIVITIES OF DAILY LIVING: A POPULATION-BASED ANALYSIS OF THE OLDER POPULATION IN URUGUAY**

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### **MOTIVATION**

Older populations exhibit higher prevalence of chronic diseases, disability, and dependency, placing social security and health care systems under stress (Prina et al., 2020; Sousa et al., 2010). Developing countries face the additional challenge of 'getting old before getting rich' (Bloom et al., 2010). Yet, the daily need for help of older adults depends on socio-demographic characteristics. The understanding of the dependency heterogeneity provides evidence for better policy design.

### **RESEARCH QUESTION**

Our aim is to identify groups of dependent older people in Uruguay and their relationship with socio-demographic characteristics. We consider the dependence status as a latent state and identify groups using the declared need for assistance in Activities of Daily Living (ADL). We characterize these groups in terms of the ADL, age, sex, education, and other health conditions. Last, we compare these groups with other classifications used in national care programs in Uruguay.

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## Parallel Sessions II, Stream B: Labour 2

### **METHODOLOGY**

Based on a Uruguayan household survey (ELPS, 2016) we apply a latent class regression model (Hagenaars & McCutcheon, 2002) for the dependency status of the older population (60+). We consider the need of assistance in basic and instrumental ADL (Katz et al., 1963; Lawton & Brody, 1969) as manifest variables and incorporate gender, age and educational attainment as covariates. The number of groups is selected based on AIC and BIC criterium.

### **RESULTS**

We identify four dependency profiles: i) independent, no need for help in ADL (86% of population); ii) only instrumental, characterized by the need for help only in household chores and moving outside the home (5%); iii) instrumental and basic, related to the need for help in several activities, except eating (7%), and iv) highly dependent, associated with the need of assistance in eating and others (2%). The probability of independence decreases with age, is lower for women and for the less educated.

### **CONTRIBUTION**

First, we carefully conceptualize dependency and use a specific measure for this construct. The literature tends to confound dependency with disability, or health status. Second, previous studies have considered health or disability as latent variables using ADL in developed countries (Luo & Li, 2020; Amengual et al., 2021). We study the external validity of these categories in a developing country and compare our profiles with the classification used in the care program in Uruguay.

### **KEY WORDS**

Latent groups, aging, long-Term Care, dependence, Uruguay

### **JEL CLASSIFICATION**

I14, C38, J14

## Parallel Sessions II, Stream B: Labour 2

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## **PRODUCTIVITY, WAGES AND WORKING HOURS: A PANEL COINTEGRATION ANALYSIS FOR OECD COUNTRIES**

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### **MOTIVATION**

Working hours, wages and productivity are substantial concepts in the labor economics literature. Although understanding how the number of hours worked and how the wages affect labor productivity is an important element of understanding labor demand, different results can be found in studies with microdata. However, examining these three relationships using aggregated data will also be a guide for policy makers. In this respect, it is important to examine the effects of wages and working hours on labor productivity.

### **RESEARCH QUESTION**

Working hours, wages and productivity are generally studied in terms of either working hours and productivity or wages and productivity. The aim of this study is to examine these three concepts together. In this respect, the long-term relationship between low wages and high working hours and low labor productivity has been investigated. We claim that the increase in working hours is negative on productivity and, considering the effective wage theory, wages have a positive relationship with productivity by using aggregate panel data.

### **METHODOLOGY**

This study uses heterogeneous panel cointegration techniques to estimate the long-run relationship between working hours, wages and productivity using panel cointegration analysis for OECD countries. Accordingly, the macro panel data set consists of 35 OECD countries. Since the data set covering the years 2001-2019 is not stationary, the analyzes are carried out by taking the first differences. We apply

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cointegration tests considering cross-sectional dependence. We estimate the long-run growth effect of labor productivity using DOLS estimator. Considering that these relations may differ for developed and developing countries, we conducted our analysis for these two subgroups.

### RESULTS

The DOLS estimates for the coefficients on wage and working hours suggest that overtime negatively affects productivity, while wages increase productivity. In light of these findings, we re-estimate the DOLS regression for two subsamples: developed countries, developing countries. Although productivity decreases as working hours increase for both groups, the impact of overtime is higher in developing countries than in developed countries. While the effect of wages is not significant in developed countries, it is significant and positive in developing countries.

### CONTRIBUTION

The main contribution of this study to the labor economics literature is to examine the wage-productivity relationship, which is an old debate, with the dimension of productivity working hours with new econometric techniques.

### KEY WORDS

Panel cointegration, labor, productivity

### JEL CLASSIFICATION

J24, J31

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## **PUBLIC DEBT AND INEQUALITY IN SUB-SAHARAN AFRICA: THE CASE OF EMCCA AND WAEMU COUNTRIES**

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### **MOTIVATION**

The income inequality arose a special interest during the last decades as the economic growth is not uniformly transferred on the welfare across the persons in all situations. Herein, asymmetric effects are registered. At the international level, many Sub-Saharan African (SSA) countries confronted with that inequality, depending especially on corruption, economic structure and characteristics, education, or tax system. Unfortunately, their public debt was quasi-neglected in that equation.

### **RESEARCH QUESTION**

The paper investigates the impact of public debt on income inequality in several SSA countries, more precisely in the Economic and Monetary Community of Central Africa (EMCCA) and West African Economic and Monetary Union (WAEMU). The main research question is: does the public debt influence the income inequality in the SSA?

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### **METHODOLOGY**

The analysis considers the Bayesian Model Averaging (BMA) estimator, with a sample with 14 countries (i.e., EMCCA - 6 countries, and WAEMU - 8 countries), over the period 1997-2019. Additionally, three scenarios are computed to check for robustness (i.e., whole sample, EMCCA and WAEMU).

### **RESULTS**

The findings show that the increase of public debt accentuates the inequality in the whole considered sample, remaining robust only in WEAMU. The augment of public debt in the WEAMU increases the 1% and 10% share of top income in parallel with a fall in 40% and 50% share of middle and bottom revenues. Herein, the acceleration of public debt in WEAMU generates a transfer of welfare from poor to rich people. Otherwise, the impact of public debt on inequality is rather neutral in the EMCCA area.

### **CONTRIBUTION**

The contribution of the paper is threefold. The analysis seems to be one of the first studies that explores the impact of public debt on inequality in the SSA countries by using different levels of revenues. Second, also as a novelty, it is one of the first works that follow the BMA estimator to discriminate between main and auxiliary determinants of inequality. Third, the paper offers a useful comparison between EMCCA and WAEMU groups given their both financial and economic characteristics.

### **KEY WORDS**

Public debt, revenue inequality, determinants, Sub-Saharan Africa

### **JEL CLASSIFICATION**

D63, H63, C23

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## **COMPLEX COEXISTENCE OF PUBLIC PAYG AND MANDATORY PRIVATE FUNDED PENSION SCHEMES IN CROATIA**

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### **MOTIVATION**

Unlike most Central and Eastern European countries Croatia has maintained the key features of its multi-pillar pension system as instituted in early 2000s. The second pillar i.e., private management of mandatory individual accounts is working for majority of employees. However, the 2018 reform has extended the exit option to all second-pillar account holders. The option can be realized in the moment of retirement by taking the full PAYG benefit instead of combined first- and second-pillar benefit and transferring the savings to the government budget. By exploring and debating the effects of that option in particular context of the Croatian pension system we expect to contribute to the broader discussion on cost and benefits of the second pillar scheme.

### **RESEARCH QUESTION**

The combined pension benefit is set to compete with the full PAYG benefit in pension payments. What are the key factors determining the account holder's choice between these two pension types? What proportion of them are expected to choose the full first pillar pension and exit the second pillar? Will it be different in the future? What are the characteristics of account holders that exited? What are the expected consequences of benefit competition on government budget balance and future pension reforms?

### **METHODOLOGY**

Long-term projections of the gross replacement rate for selected careers are used to inform on expected choices between two benefit types in the next 50 years. Several key assumptions used in projections are varied to investigate their impact on the results. In addition, the paper provides long-term projection of the transition

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costs of the second pillar to illustrate macroeconomic dimension of interaction between two mandatory pension pillars.

### RESULTS

The projections show that the replacement rates for Croatian pensioners will decline. Majority of account holders are expected to exit the second pillar as a more favorable option. Minimum pension beneficiaries, early retirees, women, and low-wage earners are expected more often to opt for exit. The choice of pension type is under heavy influence of the public pension supplement, which is paid at different rate to those who exit and those who remain in the second pillar.

### CONTRIBUTION

The paper illustrates complex interactions between the first and the second pension pillar in Croatia. It is shown that policy choices related to the first pillar are having much larger impact on the desirability of the combined benefit than second-pillar performance. The assessment of transition costs shows that the choice of an appropriate second-pillar size is one of the keys to fiscal sustainability of the multi-pillar pension systems. The findings are expected to contribute to the discussion about future of the second pillar in Croatia and elsewhere.

### KEY WORDS

Pension reform, PAYG scheme, fully funded pension scheme, pension adequacy

### JEL CLASSIFICATION

J32, H55

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## **HOW IT LOOKS LIKE IF YOU DARE TO CARE: DEVELOPMENT OF HYBRID ORGANIZATIONS IN TIMES OF SOCIAL AND INSTITUTIONAL CHANGE**

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### **MOTIVATION**

The goal of the present work is to explore characteristics of hybrid organizations that have developed across 11 European countries and contribute to the understanding of the features of an enabling ecosystem for this kind of organizations.

### **RESEARCH QUESTION**

The goal of the present work is to explore characteristics of hybrid organizations that have developed across 11 European countries and contribute to the understanding of the features of an enabling ecosystem for this kind of organizations. This paper is structured as follows. Firstly, we will explore the role of hybrid organizations in the evolving social and institutional context in Europe. Secondly, we will outline the methodology that guided the complex multi-method field research, which resulted in more than 1,500 social entrepreneurs,

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stakeholders and policy makers have been involved in the research activities during these three years, 837 hybrid organizations being included in the questionnaire and 55 in-depth case studies from 11 European countries. We searched to understand the key factors that influence the development of hybrid organizations and, consequently, identify the characteristics of enabling eco-systems, and used both quantitative and qualitative data to enlighten the complexity of the factors of key influence. In order to understand the dynamics of these influences, we further searched into organisations' past, present and future perception about relative importance of factors that challenge their development. We conclude by providing some practical and managerial implication on the features of an enabling ecosystem capable of fostering social inclusion through bottom-up social entrepreneurship activities.

### **METHODOLOGY**

In order to answer our research question on the main features of an enabling ecosystem for hybrid organizations in Europe we opted for a mixed methodology. we recurred to a convergent parallel mixed methods design, which entails the integrated collection of quantitative and qualitative data (Bryman, 2016) and enables researchers to offset the weaknesses of both quantitative and qualitative research by capitalizing on the strengths of both. In light of our research aim, we believe the combination of qualitative case studies and a quantitative survey was the most suitable approach for investigating the complexities of the organizations under study. This is especially true if we consider that 837 social entrepreneurs from 11 European countries (in alphabetical order: Albania, Austria, Denmark, England, France, Germany, Italy, Poland, Serbia, Scotland and The Netherlands) have been involved in our research activities.

### **RESULTS**

Among the potential factors we examined, scarce funding opportunities, troublesome relations with national bureaucracies, and poor marketing skills emerged in all included countries as crucial factors constraining the development of SEs. Moreover, other factors, such as inadequate managerial skills or insufficient stakeholder involvement, can represent important hindering elements. In the dynamic sense, as from our research, hybrid organisations face numerous challenges, but their relative importance changes through their life cycle.

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### CONTRIBUTION

Our research provides an insight into the complex experiences of European social entrepreneurship, and it may represent a starting point for reasoning on the main steps, in terms of management and policies, that national and European stakeholders should take in order to define a flourishing inclusive ecosystem for social enterprises and other bottom-up entrepreneurial activities.

### KEY WORDS

Hybrid organizations, social enterprises, disruption, social economy, Europe

### JEL CLASSIFICATION

L31, M14, O35

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## **AFFORDABILITY AND CONSUMPTION OF CIGARETTES IN TEN SEE COUNTRIES**

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### **MOTIVATION**

Tobacco taxes are the most effective tool for reducing tobacco consumption (Chaloupka, F.J. et al. 2012; Ho, L. et al. 2018, Jovanovic, et al. 2018). However, effects of taxation largely depend on the income changes as the income increase could easily offset the price effects (Husain et al. 2017). Importance of including affordability measure when designing tobacco taxation policy has been recognized within main global tobacco control manuals and policy recommendations developed by WHO and the World Bank (Blecher, 2020).

### **RESEARCH QUESTION**

Taking into account, relatively widespread tobacco consumption in SEE countries, research analyses trends in cigarettes' affordability over the period 2009-2019. Additionally, it aims to assess whether affordability changes have had impact on cigarettes' consumption in 10 SEE countries, out of which 5 Western Balkan

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countries aiming to enter the EU (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia) and the other 5 already being EU members (Hungary, Slovenia, Romania, Bulgaria and Croatia).

### **METHODOLOGY**

Research follows methodology developed by Blecher and Van Welbeck, (2004), later modified by He et al. (2018). It has been employed a fixed effects panel regression model to estimate affordability elasticity – change of the cigarettes consumption per capita (dependent variable) resulting from changes in affordability (independent variable).

### **RESULTS**

Affordability trend over the observed period vary across the SEE region. In some countries affordability remained constant (North Macedonia) or recorded negligible decrease (Bulgaria), while in others could be observed significant affordability reductions (Montenegro and Bosnia and Herzegovina). Results clearly show that per capita consumption was negatively associated with affordability and affordability reductions over the observed period were followed by significant decrease in consumption.

### **CONTRIBUTION**

Affordability is definitely the most significant determinant of tobacco consumption and should be incorporated into tobacco taxation policy frameworks in each of the observed countries. We propose development of Tobacco Affordability Indicator aiming to monitor annual affordability changes at the national level, also providing useful data for time and cross-country comparisons.

### **KEY WORDS**

Affordability, cigarettes, tobacco, consumption, Southeastern Europe

### **JEL CLASSIFICATION**

I18, P36, H21



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## **COVID-19 SURGICAL ABORTION RESTRICTION DID NOT REDUCE VISITS TO ABORTION CLINICS**

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### **MOTIVATION**

In spring 2020, 42 states issued stay at home orders, 33 banned elective medical procedures, and 13 banned surgical abortions due to concerns that shortages in masks, gloves, and gowns would increase the risk of transmission to providers and that interpersonal interactions would spread the virus. This is in the context of other restrictions, including maximum gestational ages, mandatory waiting periods, multiple visits, detailed building codes, and providers having hospital admitting privileges.

### **RESEARCH QUESTION**

What happened to abortion clinic visits during COVID? What additional effects did broad restrictions on elective surgery or overall movement have? What additional effects did specific explicit restrictions on surgical abortions have? Can we estimate the change in abortions, extrapolating from a change in clinic visits?

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## **METHODOLOGY**

We use daily cellular location data from SafeGraph that counts the number of visits to outpatient healthcare providers and lists of abortion providers across the United States. We gathered data on elective procedure and surgical abortion bans from the COVID State Policy Database (Raifman et al., 2020) and the Kaiser Family Foundation (Sobel et al., 2020). We estimated fixed effect Poisson regressions to examine the impact of state policies on visits to abortion clinics during the pandemic.

## **RESULTS**

We found at least a 16 percent decrease in clinic visits in February-May 2020 versus 2019. States that banned elective procedures or imposed other measures (i.e., stay-at-home orders) saw a substantial additional decrease. However, there was no significant additional decrease from explicit surgical abortions bans. We estimate that the decrease in foot traffic over these four months reduced abortions by 9 percent in 2020 relative to 2019.

## **CONTRIBUTION**

Broad elective procedure bans reduced abortion clinic visits, which can be rationalized through both demand and supply-side explanations. On the supply side, it may not be feasible to cover fixed costs if there are no patients coming in for other services to share the costs of providing common services. On the demand side, elective procedure bans may have provided signals about the severity of the pandemic in an area, leading the marginal woman to decide against having an abortion.

## **KEY WORDS**

COVID, elective surgery, distancing, abortion

## **JEL CLASSIFICATION**

H75, I18, J13

## Parallel Sessions III, Stream A: Health and Labour 1

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## **OUT FOR GOOD: LABOR MARKET EFFECTS OF TRANSITORY AND PERSISTENT HEALTH SHOCKS**

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### **MOTIVATION**

Bad health is one of the most severe life-cycle risks. Suddenly falling ill can force individuals to reduce their working time or drop out of the labor market completely (Britton & French, 2020). But the repercussions of bad health go beyond the direct effects on the labor market. Over the past decades, expenditures for sick workers' absences have steadily increased in Germany. To design effective compensation and rehabilitation schemes it is crucial to understand the nature of health shocks and how they affect individuals' labor market outcomes.

### **RESEARCH QUESTION**

In this paper, we quantify the effect of negative health shocks, distinguishing between transitory and persistent kinds, on labor market outcomes and measures of household welfare in Germany. We examine labor supply responses on the extensive and intensive margin and identify the effect of health shocks on individuals' gross income, their spouses' gross income as well as the household net income.

### **METHODOLOGY**

We use objective measures of health that directly correspond to consequences on the labor market, i.e., sick days and days of hospitalization to derive our indicators for persistent and transitory health shocks. We apply a data-driven clustering

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## Parallel Sessions III, Stream A: Health and Labour 1

technique based on these two measures for classification. We use an event-study framework to compare individuals hit by either a transitory or a persistent health shock to a control group comprising individuals not hit by a shock.

### **RESULTS**

We find large and long-lasting effects on the extensive employment margin for those receiving a persistent health shock and substantial heterogeneity between age groups. Older employees (> 50 years) experience a drop of 25 p.p. in the participation rate after receiving the shock. On the intensive margin of employment, we only find reductions of working hours in the year of the shock but no adjustments in the long term. After a persistent shock, yearly gross income experiences a parallel downward shift for adults under 50 by around € 5000. For household net income this effect is attenuated and only around half the size.

### **CONTRIBUTION**

Our paper makes two major advancements compared to the related literature. First, we develop a data-driven method to identify transitory and persistent health shocks based on objective information on individuals' health. This eliminates persistent perceptual biases and measurement error that is inherent to subjective health measures (Bound, 1991; Lindeboom & Kerkhofs, 2009) and the individual heterogeneity when relying on specific disease diagnoses. Second, we add to the growing literature on labor market and life-cycle income effects of health shocks by examining the propagation of shocks through various related outcomes (Dobkin et al., 2018; Blundell et al., 2021; Blundell et al., 2016).

### **KEY WORDS**

Health shocks, labor supply, life-cycle income

### **JEL CLASSIFICATION**

I10, J22, H51

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## **MENSTRUAL HEALTH, WORKER PRODUCTIVITY AND WELL-BEING AMONG FEMALE BANGLADESHI GARMENT WORKERS**

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### **MOTIVATION**

Female labor force participation is limited in low-income countries. Recently, attention has turned to menstrual cycle as a determinant of it, and in low-income countries its effects on working women may be more marked due to lack of access to hygiene products. Many women in these countries use cloth, rags or nothing during their period (Sumpter et al. 2013), increasing risks of infections or other health problems (Das et al., 2015; Garikipati et al., 2017), and of absence from work (WSSCC, 2013).

### **RESEARCH QUESTION**

We unpack both informational and financial constraints to hygienic menstrual health management (henceforth MHM) and analyze the effects of relieving both constraints on labor outcomes.

### **METHODOLOGY**

Using an RCT with ca. 1,900 female garment workers, we exogenously relax both constraints individually and jointly. Our *Info* treatment comprises attendance at a 1h information session on MHM lead by a local NGO; our *Pads* treatment provides a monthly ration of free hygienic sanitary pads for ca. 6 months; our *Pads&Info* treatment includes both. Using factories' administrative data and survey data, we

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analyze the effects of relaxing the constraints on earnings, absenteeism, turnover and well-being.

### RESULTS

1) Both treatments were successful in relaxing constraints: *Pads* increased reported pad usage by around 16-18 p.p., and *Info* increased the share of workers answering key MHM questions correctly 6 months after the sessions were held by around 6 p.p; 2) Workers randomized into any treatment earn around 0.6% more per month; 3) We do not detect changes in self-reported well-being at work, but treated workers are less likely to report symptoms of Urinary Tract Infections.

### CONTRIBUTION

We contribute: 1) To the literature on health behaviour by disentangling the roles of financial constraints, experimentation and expert information in health campaigns, finding that combining the last two results in sustained improvements in worker health and earnings; 2) To the literature on the importance of MHM for economic outcomes, that so far mainly focused on educational outcomes among adolescents, as we are the first to identify the effects of improved MHM on labor outcomes using an RCT.

### KEY WORDS

Menstrual health, productivity, export manufacturing

### JEL CLASSIFICATION

O14, O15, O35, M54, J32, J81

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## **TRANSITIONS INTO DEPENDENCY WITH AGEING IN EUROPE**

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### **MOTIVATION**

Ageing has been related to the onset of dependency in older adults, and help from others may be needed daily (Barnay & Juin, 2016; Van Houtven & Norton, 2004). Some individuals start having care needs earlier in life while others may preserve independence for longer. Different trajectories towards dependency may be related with the type of help (Abdi et al, 2019). Also, these could vary according to demographic, institutional or cultural characteristics (Kingston et al, 2017; Prina et al, 2020).

### **RESEARCH QUESTION**

The purpose of this research is to answer the following questions:

Which are the profiles of older people in their trajectories towards dependency regarding their age and sex, in 10 European countries?

Do these profiles vary according to different operationalizations of dependency construct?

Finally, how are these results related to the type of care received by older people?

### **METHODOLOGY**

Multi-state models were applied in order to analyse the probability of transition between dependency states and death. The ability to perform Basic and Instrumental Activities of Daily Living (BADL and IADL) is used to proxy the dependency states. The data is from people aged 65 or older who participated in the “Survey of Health, Ageing and Retirement in Europe” from 2004 to 2013 in Austria, Germany, Sweden, Netherlands, Spain, Italy, France, Denmark, Switzerland and Belgium.

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## RESULTS

Transitions varied with age and individuals had an increased risk of dependency until the age of 70. There are international differences in the risk of transition to dependency between men and women. Moreover, this differences appear for both operationalizations of dependency. The type of care received varies across countries and also differs according to sex. The percentage of people not receiving home care is higher for men than for women and the share of unpaid care is higher for women.

## CONTRIBUTION

The contribution is to deepen the knowledge about trajectories towards dependency across 10 European countries that may highlight their institutional or cultural differences. Furthermore, a better understanding of the profiles of older people in these trajectories could shed light on the type of help needed. Moreover, the analysis of the type of care received taking into account the sex differences across European countries, could improve the care policies provided in this region.

## KEY WORDS

Aging, dependency, activities of daily living, multi-state models, Europe

## JEL CLASSIFICATION

I10, J14, C33

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## **DUAL RETURNS TO EXPERIENCE**

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### **MOTIVATION**

Fixed-term contracts are widespread in many European countries (ter Weel, 2018). Their extensive use is often rationalized by employers' quest for flexibility in rigid labor markets. On the one hand, workers might benefit from the availability of fixed-term contracts since they ease job finding and mitigate wage losses associated with skill depreciation during non-employment. On the other hand, temporary employment could be detrimental if induces unstable careers and lower human capital accumulation. While temporary contracts might reduce time out of work and allow workers to accumulate experience (almost) continuously, the quality of that experience may be worse due to poorer learning opportunities that still translate into foregone wages.

### **RESEARCH QUESTION**

In this paper we shed light on how labor market duality affects human capital accumulation and wage trajectories of workers during their first years in the labor market. We perform our analysis in the context of the Spanish labor market, where the use of fixed-term contracts is the rule rather than the exception: more than

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## Parallel Sessions III, Stream B: Youth and Low-Skilled Labour Markets

90% of the contracts signed each month are fixed-term and around 25% of the workforce is under some form of temporary employment (Felgueroso et al., 2018).

### METHODOLOGY

We rely on rich administrative data that allows us to follow individuals since labor market entry and measure exact time worked under permanent and temporary contracts, separately. We use these precise measures of accumulated experience to estimate reduced-form wage regressions derived from a stylized framework of human capital development in a dual labor market. More precisely, we estimate variations of the following Mincer equation

$$\ln w_{it} = \alpha_i + \sum_{c \in \{ftc, oec\}} \gamma^c c_{it} + X_{it}\theta + \delta_e + \delta_t + \varepsilon_{it}$$

here  $\alpha_i$  stands for pre-labor market permanent individual ability while  $oec_{it}$  and  $ftc_{it}$  measure the experience accumulated by worker  $i$  working under open-ended or fixed-term contracts respectively, since labor market entry up to time  $t$ .  $X_{it}$  refers to contemporaneous job-firm characteristics (tenure, type of contract, part-time status, skill level, plant size and age, location, and sector of activity), whereas  $\delta_e$  and  $\delta_t$  are potential experience and year fixed effects, respectively. The inclusion of potential experience effects along with contemporaneous job-firm characteristics ensures that differences in the returns to accumulated experience can only be driven by heterogeneous past histories in the labor market. Individual fixed effects are intended to account for the sorting of workers based on unobserved permanent heterogeneity. Under the assumption that  $\varepsilon_{it}$  is an i.i.d. random term, consistent estimates can be obtained by applying the standard panel fixed effects estimator.

To explore complementarities between individual ability and experience acquired in different contracts, we introduce worker heterogeneity in the form of unobserved ability to learn and interact it with our experienced acquired under fixed-term and open-ended contracts into our framework. Similarly, we adapt our benchmark model to compare individuals with the same level of total experience but different incidence of temporary employment in their career to account for differences in job interruptions while being employed under fixed-term contracts.

## **RESULTS**

Our results point to lower returns to experience under fixed-term contracts relative to open-ended contracts. We find that each additional year of accumulated experience in temporary employment is associated with 0.8 percentage points lower daily wage relative to the experience accumulated in permanent jobs, after accounting for observed match components and unobserved worker heterogeneity. Differences in returns prevail among job switchers, suggesting a human capital channel, since for these workers there is a clear dissociation between where experience was acquired and where it is valued. However, the uncovered difference masks substantial heterogeneity among workers. We find that the gap in returns is increasing with individual ability, being negligible for individuals at the bottom of the ability distribution while reaching 1.6 percentage points for high-ability workers. Similarly, while individuals with low levels of experience do not suffer losses, higher incidence of past temporary employment among highly experienced workers leads to wage losses of up to 15%. Finally, the comparison of contract-specific employment trajectories indicates that heterogeneous returns to experience are associated with large shifts along the distribution of wage growth after 15 years since labor market entry.

## **CONTRIBUTION**

This paper contributes to different strands of the literature. A significant body of research has investigated the consequences of flexibility at the margin (existence of fixed-term contracts with low firing costs alongside highly protected open-ended contracts) for labor market performance (Boeri, 2011; Bentolila et al., 2020). One of the dimensions analyzed is the impact of temporary employment on workers' careers. Although empirical evidence on whether temporary employment is a stepping-stone or a dead end to stable employment are mixed (Filomena and Picchio, 2021), what is less controversial is that fixed-term contracts penalize workers in the long run, due to a less continuous employment path and lower wage growth (Booth et al., 2002; Garcia-Perez et al., 2019). We complement this literature by showing that even if workers can be continuously working over their career, they are penalized from acquiring experience in fixed-term contracts.

A parallel strand of the literature has analyzed contemporaneous wage differentials between temporary and permanent workers (e.g., Booth et al., 2002; Albanese and Gallo, 2020). Most of the results point to a penalty for workers on fixed-term contracts, which is typically rationalized by either less firm-sponsored training (Cabrales et al., 2017; Bratti et al., 2021) or lower worker's effort when the



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probability of conversion from temporary to permanent are low (Dolado et al., 2016). Our analysis complements this literature by focusing on how experience accrued on temporary versus permanent contracts affects current wages. Our results suggest that the costs of being employed on temporary contracts accumulate over workers' careers, leading to lower returns to experience if on-the-job learning occurs under fixed-term contracts.

Finally, our analysis contributes to a growing literature that investigates the existence of heterogeneous returns to experience due to differences in learning opportunities based on firm type (Arellano-Bover and Saltiel, 2021), coworkers' quality (Jarosch et al., 2021), or city size (de la Roca and Puga, 2017). We add to this line of work by showing that skill acquisition under alternative contractual arrangements also leads to heterogeneous wage-experience profiles.

### KEY WORDS

Human capital, labor market duality, earnings dynamics

### JEL CLASSIFICATION

J30, J41, J63

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## **YOUTH IN NEW EUROPE: ECONOMIC ACTIVITY AND EU POLICY PREFERENCES**

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### **MOTIVATION**

The research is conducted within the Youth Activation Network project funded through the European Social Fund (UP.04.2.1.06.0048). The project seeks to explore why young people tend to be more socially disengaged, with specific focus on Croatia. Although previous literature has established that youths are less likely to take an interest in politics, to vote, to trust in institutions or to engage in civic participation (Salvatore et al., 2012), the evidence is relatively scarce for post-transition societies.

### **RESEARCH QUESTION**

We explore factors contributing to different preferences for EU budget spending between youth and the rest of the population. Empirical analysis is focused on European post-transition societies, where youth has been additionally adversely affected by the 2009 crisis. Thus, youth economic activity, with specific focus on unemployment, is explored as potentially important factor shaping their policy preferences.

### **METHODOLOGY**

We rely on Eurobarometer 93.1 Survey individual data collected in July-August 2020 as well as Eurobarometer 74.2 Survey individual data collected in November-December 2010. In addition to comparative statistical analysis, we apply multinomial logit to explore impact of different factors on revealed preferences for EU budget expenditure.

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### RESULTS

Preliminary results suggest that youth support EU spending for (1) Employment, social affairs and public health, followed by (2) Education, training, culture and media and (3) Climate change and environmental protection. The rest of the population also favors (1) Employment, social affairs and public health, but the next preference is (2) Agriculture and rural development.

### CONTRIBUTION

Previous literature has already revealed that in some post-transition societies, youth political knowledge and their interest in politics are relatively poor (Lavrič, Tomanović and Jusić, 2019). The contribution of the present paper is that it explores youth preferences for specific policy options delivered by the supranational entity and correlating them to the youth socioeconomic characteristics.

### KEY WORDS

Youth, post-transition, unemployment, policy preferences

### JEL CLASSIFICATION

J40, H39

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## **SUBSIDIZING DOMESTIC SERVICES TO CREATE (FORMAL) LOW-SKILLED JOBS: EFFECTIVENESS AND UNINTENDED REPERCUSSIONS ON WORK DISABILITY**

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### **MOTIVATION**

In recent years, policymakers in the United States and across Europe have increasingly adopted active labour market policies for jobseekers and welfare recipients to curb unemployment. One of these policies that has received growing attention lately relates to the subsidization of so-called Personal and Household Services (PHS). Yet, despite their growing popularity, empirical evidence on their effects is scarce.

### **RESEARCH QUESTION**

This paper aims at evaluating the effectiveness of PHS subsidies in creating formal low-skilled jobs, as well as investigating their potential unintended side-effects in terms of work disability. Specifically, it focuses on a large domestic service sector subsidy implemented in Belgium in 2004. We estimate the employment and work disability effects of the subsidy and explore mechanisms, namely in terms of job creation and employment formalization.

### **METHODOLOGY**

To answer this research question, we use Belgian administrative data covering the years 2003-2015. First, we use a difference-in-differences design to estimate the impacts of implementing PHS subsidies on employment and work disability in subsidized sectors. Next, we implement an event study difference-in-differences strategy combined with coarsened exact matching to explore the effects

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## Parallel Sessions III, Stream B: Youth and Low-Skilled Labour Markets

of program participation and thus shed some light on the mechanisms through which PHS subsidies operate.

### **RESULTS**

We find that PHS subsidies are effective in creating (formal) jobs in subsidized sectors for low-skilled individuals, but at a cost in terms of work disability (in addition to the cost of the subsidy itself). The employment effects seem to occur through both the creation of new jobs for low-skilled jobseekers, and the formalization of previously undeclared domestic services. We also find suggestive evidence that disability effects are the result of a health deterioration of subsidized workers.

### **CONTRIBUTION**

This paper provides the very first microeconomic evaluation on the employment and work disability effects of PHS subsidies. By doing so, it contributes to an extensive literature on active labour market policies by evaluating a new and increasingly popular kind of program. It also contributes to the literature on the links that exist between different social security programs by providing the first evidence on the unintended effects that wage subsidies can have on the Disability Insurance.

### **KEY WORDS**

Wage Subsidies, low-skilled unemployment

### **JEL CLASSIFICATION**

J08, J24, J28, J38

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## **SIMULATING THE WORKPLACE: A (BETTER) ALTERNATIVE TO IMPROVE LABOR MARKET OUTCOMES OF DISADVANTAGED YOUTH?**

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### **MOTIVATION**

Traditional, classroom-based training programs have been criticized for their limited impacts due to an inability to deliver practical and soft skills requested by employers. As an alternative, work-based learning at private-sector firms received increasing attention in recent years. In this paper we study a program that tries to find the middle ground: training via simulated work environments at vocational training institutes.

### **RESEARCH QUESTION**

The study compares this innovative program (training via simulated work environments) to a more traditional intervention that matches youth to firm-based trainings. Our goal is to estimate the causal impact of these programs on employment and compare their effectiveness.

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## Parallel Sessions III, Stream B: Youth and Low-Skilled Labour Markets

### **METHODOLOGY**

We implement a variant of the hypothetical treatment approach by Lechner (2009), where we assign pseudo treatment dates to the comparison group for each cohort of treated in both trainings. We then include the duration in the respective registered labor market state at the time of training as a covariate in the matching procedure. Given this setup, we estimate the dynamic version of the Average Treatment of the Treated as the Average Treatment effect on the Treated Survivors parameter.

### **RESULTS**

Our findings show that both interventions significantly improve formal labor market outcomes of youth. While impact estimates are smaller for VTI-based trainings, our results indicate that effect sizes steadily increase over the medium term. In addition, survey evidence suggests that the benefits of VTI-based training may be comparatively underestimated in administrative data due to the higher relevance of informal labor market outcomes. We discuss our results in the framework of market failures (signaling vs. screening) and the role of transferable vs. firm-specific skills.

### **CONTRIBUTION**

Our study makes two important contributions to the literature of training-based active labor market programs. With regards to program design, our results show that delivering work-based learning via simulated work environments may be a valuable alternative to firm-based training. With regards to evaluation design, our results highlight the importance of assessing long-term outcomes and the importance of combining administrative and survey data when comparing interventions.

### **KEY WORDS**

Active labor market programs, skills training, youth employment, impact evaluation, administrative data

### **JEL CLASSIFICATION**

D11, D42, L12, L16, L66, L67

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**Stream C: Education (or the Lack thereof) and the Labour Market in  
Western Balkans**

**MISMATCH IN THE LABOUR MARKET AND IMPACT ON  
EARNINGS: THE CASE OF SERBIA**

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**MOTIVATION**

The subject of the paper is mismatch analysis in the labour market of Serbia. The aim of the paper is to investigate the extent of overschooling and underschooling effects on earnings in Serbia. The main motivation to study this topic regards the educational inflation expressed in the form of increased demand for formal qualifications, and the devaluation of these qualifications.

**RESEARCH QUESTION**

Are wages in Serbia solely determined on the basis of educational requirements?  
To what extent the allocation of educational resources is inefficient in terms of  
labour market mismatch?

**METHODOLOGY**

The analysis in the paper is based on Duncan and Hofman's augmented wage specification, which represents an extension of standard Mincer wage equation. The Duncan and Hofman's specification represents the model in which wages are

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regressed on years of required schooling, years of overschooling, and years of underschooling and other control variables. OLS method allows the estimation of the model.

### RESULTS

The results obtained from LFS data give the information about the values of rate of return to a year of required schooling, and the rate of return to a year of overschooling or underschooling. The existence of the difference between these estimated returns indicates the scope of the labour market mismatch in Serbia.

### CONTRIBUTION

The results are clearly relevant from a public policy makers' perspective in Serbia, as the education is highly subsidized by the state. The analysis will give the insight of whether education investments pay off.

### KEY WORDS

Mismatch, schooling, wage equation, Serbia

### JEL CLASSIFICATION

I2, J2

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## **DETERMINANTS OF ACADEMIC SUCCESS: THE CASE OF UNIVERSITY OF SARAJEVO**

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### **MOTIVATION**

Although reforms around the globe accentuate online and blended learning, the pace of accepting such modes of education has been unsatisfactory, mainly as academic success is observed traditionally, through the prism of grades. In that sense, the purpose of this research is to shift the focus from quantification of academic success, and to analyze the relationship between the demographic, socio-economic, academic and psychological traits of students and academic success as a multifaceted phenomenon.

### **RESEARCH QUESTION**

On a basis of reviewing and analyzing relevant literature, and objectives of this research, we have conceptualized research questions:

- Is it possible to identify factors of academic success related to the demographic, socio-economic, academic and psychological traits of students?

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- Do student traits such as gender, scientific field of study, mode of studying, current residence, mode of financing the studies, and working status of parents affect student academic success?

### **METHODOLOGY**

The data was collected using survey method. The participants were 551 students from the University of Sarajevo. Aiming to identify factors of academic success, we have used principal components method. Multiple regression analysis was employed to analyze the impact of identified factors and other potential determinants on academic success.

### **RESULTS**

Focusing on students' demographic, socio-economic and academic traits and their perception of affective states during COVID-19, we have identified factors of academic success: SES, positive and negative feelings, and academic dynamics. Evidence implies academic success is positively affected by academic dynamics, SES and time spent on studying, while being negatively affected by negative emotions and time spent on physical activity. Gender, mode of study, scientific field of study, instructions, mode of financing, and father's working status exhibit significant influence on academic success.

### **CONTRIBUTION**

By identifying the determinants of academic success derived from student traits and academic dynamics, this study presents unique and comprehensive analysis of academic success as a multidimensional phenomenon. Considering that educational system is one of the social pillars significantly affected by permanent change and improvement, the results of this research may serve as a springboard for advancing academic accomplishments of students.

### **KEY WORDS**

Academic success, determinants of academic success, socio-economic status, academic traits, affective states during COVID-19 pandemic



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### JEL CLASSIFICATION

I20, I21, I23

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## **NEET CHALLENGES IN SERBIA: SCHOOL TO WORK TRANSITION**

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### **MOTIVATION**

Youth (15 to 29 years of age) participation in Serbia is a key resource for social development. The inclusion of youth into the economy through employment is crucial for Serbia. However, identification of what youth needs most assistance or and access to the labor market are considered as challenges to tackled urgently. NEETs run the risk of completely falling out of the labour market entirely, falling below the poverty line and being unable to effectively re-enter the labour market, thereby severely limiting their ability to lift themselves out of poverty or contribute effectively to the economy.

### **RESEARCH QUESTION**

There are several sectors in which youth employment, NEET and other policies concerning such matters need to be addressed. To do so we have analyzed three research questions: 1. Are youth employment measures adequately set by the relevant governmental structure? 2. What are the most common challenges, difficulties in the Serbian context and whether the best practices from the EU can be applied in Serbia? 3. Are there mechanisms which are suitable to identify the needs of NEET youth?

### **METHODOLOGY**

Within this research, we have considered policies and activities targeting youth which are mainly overseen vertically from the Ministry of Labor, Employment, Veterans and Social Affairs, the Ministry of Youth and Sports and Serbia's National Employment Agency. Also, we have taken into account document analysis of National Employment Strategy 2011-2020 and National Youth Strategy 2015-2025,

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as well as statistical data published by Eurostat and Statistical Office of the Republic of Serbia.

### RESULTS

The official youth unemployment rate of the Republic of Serbia in 2019 was 21.5%, a minor but significant fall from 2018's 24.5%. Serbia's NEET rate was 18.9% in 2019, a fall from 2018's 20.01. Nevertheless, national policies have been created that aim to recognize, retain, and attract young talent. While increasing the level of education attained in the EU has led to a decrease in the NEET rate, whereas in Serbia, it has been the opposite. Tertiary education (levels 5-8) is prominent in the NEET rate (23.7% in 2019).

### CONTRIBUTION

Actively attainment out to NEET by giving them a special position in the Serbian employment scheme that would allow them to receive obligatory supervision and career guidance while also getting payments for doing so would be a nudge to them in the accurate course. It would allow them to obtain additional education and skills which must be set up by the government through public private partnerships to better acquire and boost the skills and knowledge to work or educate themselves.

### KEY WORDS

NEET, youth, education, labour market

### JEL CLASSIFICATION

A1, I2, J1, J2

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## **ENTREPRENEURIAL INTENTIONS OF STUDENTS IN SERBIA: SOME EVIDENCES FROM DIFFERENT FIELDS OF STUDIES**

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### **MOTIVATION**

The entrepreneurship development has been studied from different perspectives in Serbia. One strand of research papers focuses on the institutional support to the development of entrepreneurship, with special emphasis on the entrepreneurship from necessity, including the social entrepreneurship and the assessment of grants provided through active labor market policy schemes. The other strand of literature includes only a few papers on entrepreneurial values and decisions of young entrepreneurs to be. The goal of this paper is to compare future entrepreneurial behavior of the two different groups of studies from the same university.

### **RESEARCH QUESTION**

The research was conducted within the framework of the theory of planned behavior. More specifically, the variables from the theory of planned behavior, such as personal attitudes, subjective norms and perceived behavior control are combined with additional personality threat and contextual variables to explain the differences in entrepreneurial intention between the students of different fields of studies in Serbia.

### **METHODOLOGY**

In this paper, the two self-administered surveys among the University of Belgrade students of business economics and electrical engineering were conducted. The same survey questionnaire was tailored and disseminated among the students during the autumn and fall semesters in the schooling year 2016/2017. The research intention was to cover students of the final years of studies, who obtained some entrepreneurial education during their previous years of studies. The data

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from the two samples of around 300 students from different faculties were collected. The statistical tests for examining the entrepreneurial intention variations among the students of different fields of studies were conducted. In addition, the structural model of entrepreneurial intention was developed.

### **RESULTS**

The preliminary results show that the University of Belgrade students of business economics and electrical engineering do not exhibit clear intention to start their own business venture after graduation. Some control variables that were included in the model confirm more pronounced personal attitude towards entrepreneurship among young male students than among their female counterparts, while the age of the students or the year of study were not found as the variables of a significant explanatory power. These findings are important bearing in mind the persistent unemployment of the youth and the official strategies implemented to address these problems in the Serbian labor market.

### **CONTRIBUTION**

Although this research survey was conducted among the tertiary educated young people, the contribution of this paper is at least twofold: firstly, to reveal potential sources of entrepreneurial population in Serbia, and then to explain what are the main drivers of entrepreneurial intention among the young people enrolled in different fields of studies. This research paper fills the existing gap in studies of entrepreneurial intention in Serbia and contributes the applied literature in the field of young people wellbeing, the influence of entrepreneurial education on decision process and exploration of the determinants of professional status of future entrants to the Serbian labor market.

### **KEY WORDS**

Entrepreneurship, entrepreneurial intention, students of economics and electrical engineering, Serbia

### **JEL CLASSIFICATION**

I25, I31, L26

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### ACKNOWLEDGEMENT

This research is financially supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

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## **GENDER DIFFERENCES IN ONLINE EDUCATION**

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### **MOTIVATION**

Use of online learning tools in education has been increasing and this trend has been accelerated by Covid-19 outbreak and the subsequent school closures. It is important to understand the investment made by parents and the effort put by children in this context. Moreover, in view of the previous economics literature on gender differences in academic performance and parental investment, such differences in contemporary online learning platforms should be investigated properly.

### **RESEARCH QUESTION**

We quantify the effort and performance gap between girls and boys when using an online learning platform and analyze whether the direction and the magnitude of the gap differs depending on the gender of the parent who mainly supervises the child. Further, we analyze whether the results are heterogeneous by the gender norms within the family and in the society, which we proxy by the gender of the elder sibling and the gender norms in the province of residence, respectively.

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### **METHODOLOGY**

We identify the gender differences in effort and performance outcomes by using linear regressions where we add many controls. Then, we run within-family regressions where we include family fixed effects to control for the family characteristics. We run all our regressions for two types of families separately: the ones where the mother supervises the kids' education, and the ones where the father does.

### **RESULTS**

Our main preliminary results show that for a given mother, girls show higher persistence levels in finalizing the tasks, but their ratio of the correctly solved problems is smaller and they are slower in performance than boys. For a given father, girls complete less sessions, solve less problems, their ratio of correctly solved problems is smaller and they are slower in performance than boys. Also, the magnitude of the gender gap in the fathers sample is larger than that in the mothers sample.

### **CONTRIBUTION**

We analyze whether the gender gap in effort and performance differs by the gender of the parent who mainly supervises the kids' education, which - to our knowledge - has not been analyzed before. Also, we document gender differences in completing daily exercises, rather than the standardized test outcomes. This helps us focus on the effort, while the test outcomes are also affected by the non-cognitive skills (Balart et al, 2018) and the importance of the test (Duckworth et al., 2011).

### **KEY WORDS**

Education and Gender, parental investment

### **JEL CLASSIFICATION**

J13, J16

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## **IMPACT OF FEMALE PEER COMPOSITION ON GENDER NORMS PERCEPTIONS IN SECONDARY SCHOOL**

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### **MOTIVATION**

The reduction in educational and labor gender gaps is one of the most striking facts in recent history. Yet qualitative differentials persist. Women underperform men in mathematics and are underrepresented in STEM educational and occupational fields (Gasparini & Marchionni, 2015; Marchionni, Gasparini, & Edo, 2018). While pioneer frameworks of human capital explain a decreasing portion of the gender wage gaps (Goldin, 2006; Blau & Kahn, 2017) an emerging literature focuses on studying gender norms and differential preferences that could lead to persistent gender inequality (Bertrand, 2020).

### **RESEARCH QUESTION**

I investigate how gender composition of 9th graders secondary students in Uruguay affects perceptions on gender norms. The analysis explores potential heterogeneous effects by individual (previous grade repetition) and household characteristics (socio-economic status and region). I further estimate the causal effects on students' time use and cognitive outcomes. This in-depth analysis will contribute to the understanding of the processes and mechanisms behind gendered peer effects.

### **METHODOLOGY**

For causal identification, I take advantage of the novel sampling design of a nationally representative survey to exploit the variation in the percentage of female peers across classes within school. Based on simulations of random assignment of student to classes and balancing test of student characteristics I argue that classes are formed roughly randomly. I also show there is enough variability in the

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proportion of female peers across classes within schools which is crucial for identification.

### RESULTS

Results show that a higher exposure to female peers leads to more progressive gender norms. The analysis of other outcomes shows that females significantly reduce the time devoted to domestic work and improves mathematics scores. Thus, exposure to female peers not only reduces traditional gender perceptions but also by changes actual behavior. My results suggest that even short interventions in secondary school contexts may have substantial effects on reducing gender stereotypes among students.

### CONTRIBUTION

This paper contributes to the peer effects literature. Evidence for developed countries is well-established (Epple & Romano, 2011; Sacerdote, 2011; Paloyo, 2020) but literature on peer effects in developing contexts is still scarce (McEwan, 2003; de Melo, 2014; Balsa, Gandelman & Roldán, 2018; Izaguirre & Di Capua, 2020). It also contributes to the literature on gender norms. While the effects of gender norms on economic outcomes have been widely studied (Vella, 1994; Fortin, 2005; Fortin, 2015; Bertrand, 2020) little is known regarding the formation of gender norms' perception. Lastly, the study of gender inequalities in school contexts is also important from a policy perspective.

### KEY WORDS

Peer effects, gender norms, developing countries

### JEL CLASSIFICATION

I24, J16, Z13

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## **GENDER GAPS IN THE LABOUR MARKET AND PENSION SUSTAINABILITY**

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### **MOTIVATION**

The financial viability of pay-as-you-go pension systems has been questioned for more than 30 years in developed countries. The adverse effect of rapid population ageing on pension finances has been broadly studied (De Nardi et al. (1999) for the U.S. and Galasso and Profeta (2004) for France, Germany, Italy, Spain, the U.K., and the U.S.). On the one hand, an increase in the number of beneficiaries and periods, due to the higher life expectancy, cause the Social Security pension expenditure to rise. On the other hand, the fall in births lowers the working population's growth and, ultimately, Social Security contributions. Therefore, the old-age dependency ratio, defined as the proportion of workers entitled to a retirement pension to those contributing to the Social Security System, rises. These facts imply a lower growth rate in revenues than expenditures. Concurrently with the population ageing, labour markets in developed countries have been structurally transformed. Women drive the main change due to the increase in female labour force participation in the recent decades. The rise in women's employment rate is likely to behave as an antidote to population ageing. Spain has not been an exception to this trend; Spanish female labour force participation grew from 30% in 1975 to 70% nowadays. This fact, accompanied by being one of the most aged populations in Europe, makes this country an interesting study case. During the authoritarian regime (1939-1975), the Catholic Church influenced women's status that promoted the male breadwinner model. Women's responsibilities were reduced to take care of children and house chores. The end of Francisco Franco's dictatorship in 1975 was a turning point for women's liberalisation. Before that time, women faced a lack of freedom. Then, 1975 establishes the starting point at which women's labour force participation dramatically rise. With all, women made a clean break with the traditional role they have acquired through time, allowing the economy to go from a society where the male-breadwinner family model was predominant to a dual-earner model. The viability of the Spanish public pension system has been a matter

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of constant concern in recent decades because the Social Security system represents a significant share of the Spanish government finances. In 2019, the Social Security system represented 10.9% of the Spanish GDP. However, female labour market outcomes since the mid-seventies are important but they have been neglected by the literature and this paper models them carefully. First, the decline in the number of children. Second, the fact that women are getting more educated than men and third that they live longer than men. The last two facts imply a rise in today's contributions to Social Security and future pension expenditure.

### **RESEARCH QUESTION**

Despite the huge recent research regarding the growth in female labour force participation over previous decades, the literature has not analysed its consequences for the government finances. This paper introduces a model that captures the increase in the Spanish female labour force participation (Guner et al., 2014). The main drivers are the higher educational attainment, the fall in births (Bover and Arellano, 1995), and the drop in female participation cost in the labour market. This participation cost is an aggregate measure that captures the other literature explanations. With this set-up, I explore the implications of this new labour market reality in the Spanish Social Security finances. Thus, this paper aims to answer the following question: What is the contribution of women labour force participation increase on the sustainability of pensions in Spain? Given the nowadays persistent gender gaps in the labour market, this paper quantifies the effect of two gender policies on the public finances and these gaps. First, the introduction of a Social Security budget that makes a gender differentiation. In other words, it introduces two Social Security budgets, one for men and the other for women, which finds the necessary tax for men and women that balances each budget. Second, I introduce gender-based taxation, where women are permanently taxed at a lower rate compared to men.

### **METHODOLOGY**

To this end, I assume that Spain is a small open economy. I simulate a deterministic, multi-period, overlapping generations model populated by heterogeneous married households. Heterogeneity is coming from the household's education type and initial labour market productivity. Women make a participation decision in the labour market at the beginning of their lives. This decision differentiates households into one and two-earner. After that, both spouses solve a joint

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maximisation problem. They make decisions on consumption and savings in all periods and labour supply in the working-age periods. A government collects a payroll tax on earnings during the working-age periods and pays retirement and widow pensions to retired cohorts. The model is calibrated to the Spanish economy in 1975 when the male-breadwinner model was generalised, and female labour force participation was low. To further analyse women's effect on the pension system, I generate an indicator that quantifies the share of male's pensions financed by women. I call this indicator the Gender Imbalance Indicator (GII, henceforth). I conduct three experiments with two different goals. First, to quantify the effect of a larger women's labour market attachment on the pension funding. Second, analyse the effect of introducing gender taxation policies in Spain. I consider a Gender Imbalances Eradication (GIE, henceforth) policy so that gender transfers are eliminated in the economy and a Gender-Based Taxation (GBT, henceforth) policy where women are taxed 20% lower than in the Benchmark economy, and men's tax adjusts so that the budget is balanced each period. All the counterfactual analyses work as follows. The economy starts in the initial steady state in 1975. Then, I introduce some of the economic and demographic changes that characterise the transition periods. Finally, I allow the economy to converge to a final steady state, comparing it with the Benchmark economy. The experiments computed for the transitional dynamics also assume that the government must balance its budget every period. To do so, the government changes the Social Security contribution rate. Finally, I analyse the welfare implications of these two last reforms. To assess the welfare consequences, I divide this analysis into two cohort groups: first, all the cohorts affected by the tax reform in 2019 and alive at that time and second, the new-born cohorts up to fifty years after the tax reform. The methodology consists of computing the per-period consumption compensation under the Benchmark economy, which guarantees equal discounted welfare under the current tax system in 2019 and the one implied by the tax reform.

### RESULTS

The main findings of this paper are as follows: in a model that ensures budget balance, the ageing of the Spanish population cause the Social Security tax rate to rise from 13.4% in 2020 to 30.8% in 2050. Despite this, the Spanish women's liberalisation has dramatically affected the current (2020) Spanish labour market in two ways. On the one hand, it has narrowed the gender gaps in the labour market regarding participation (-36.8 pp), after-tax earnings (-10 pp) and pension expenditure (-14.15 pp). On the other hand, it has generated a substantial

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redistribution of resources from women to men in the Social Security system. The GII indicates that women have financed over 10% of male's retirement pensions. The paper's projections show that these gender gaps in the labour market keep decreasing. At the same time, after 2050, the redistribution of resources goes from men to women, who financed over 7.8% of women's pension expenditure in 2080. Persistent gender differences in the labour market, the fact that women live longer than men and the complementarity between retirement and widow pensions explain why the redistribution in the long run goes from men to women. Under the hypothetical scenario in which women would not have increased their employment rate as we see in the data, Social Security finances would have deteriorated in the short run. In contrast, they would have improved in the long run. In 2020 the Social Security contributions rate would have increased from 13.4% in the Benchmark economy to 14.4% in this counterfactual analysis. This difference is mitigated due to two facts: first, the intrafamilial substitution of hours work and second, as female contributions fall, so does female's pension expenditure. Then, women still finance on average 4% of male's pensions until 2030. The introduction of the GIE policy in 2019 shows that the tax would have been lower for women in the short run than men's (4.2 pp lower in 2020), the opposite happens in the long run horizon (4.9 pp higher in 2050). While GIE encourages women to increase their labour market participation and supply until 2043, in the long run, gender gaps in the labour market widen. In welfare terms, taxing men and women at a fair rate cause welfare loss for the alive cohorts in 2019 (-0.08% in lifetime consumption) and the future new-born cohorts (0-0.55%). Thus, it does not seem like a good policy to reduce gender differences. Despite this, GBT is a smarter policy because it induces women to work more hours and to participate more, independent of educational attainment. Additionally, this Experiment provides a relevant source to lessen the gender wage gap and it displays welfare gains for new-born cohorts as they would be, on average, better off by 0.7-0.55 % in lifetime consumption.

### **CONTRIBUTION**

The paper lies at the intersection of three lines of research. The first is concerned with a long tradition in macroeconomics research on sustaining Social Security systems. This literature uses life-cycle models pioneered by Auerbach and Kotlikoff (1987). I contribute to the papers that analyse potential policy reforms that look for a self-financed pension system. Imrohroglu et al. (1995) studied the optimal replacement rate in the United States. Fuster et al. (2007) evaluate the elimination of the Social Security System with altruistic individuals. In Spain, Díaz-Giménez and

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Díaz- Saavedra (2009) studied the effect of delaying the statutory legal retirement age. However, I depart from the existing literature by considering a two-earner household environment and modelling the female labour supply. To the best of my knowledge, Sánchez-Martín and Sánchez-Marcos (2010) are the first and only authors who introduced this new feature in the pension literature. However, modelling females' labour supply, both in the extensive and intensive margins, is widespread in other set-ups. For instance, Guner et al. (2011), Kaygusuz (2015) and Nishiyama (2019). The main difference is that those papers do not study pensions' sustainability problem as Sánchez-Martín and Sánchez-Marcos (2010) and this paper does. The second relevant strand of the literature refers to the recent research regarding the growth in female labour force participation over previous decades. This branch of literature divides into two different sections. The first focuses on the documentation of this new labour market stylised fact (Goldin, 2006) for U.S. and (Guner et al., 2014) for Spain. The second finds potential reasons behind the shift in female's labour supply behaviour. The increase in university education and the decrease in birth rates in Spain (Bover and Arellano, 1995), the electricity revolution (Greenwood et al., 2005), the relative change in returns to experience compared with the male's (Olivetti, 2006), the decrease in the gender wage gap (Jones et al., 2015b) and the reduction in the childcare cost (Sánchez-Marcos and Bethencourt, 2018) explain the rise. In this vein, this paper extends the literature mentioned above to a new section that examines the consequences of this labour market trend in pension sustainability. The third strand of the literature is the evaluation of tax reforms with a heterogeneous dynamic model. The paper is in line with Guner et al. (2012b). They evaluate the introduction of gender-based taxation in a heterogeneous model for the U.S. They show that gender-based taxation improves welfare for most households. I introduce gender-based taxation in Spain and contribute in two ways. First, to the literature on tax reforms by assessing the effect of gender-based taxation on the Social Security system. Second, I contribute to the debate on whether more elastic labour suppliers should be taxed at a lower rate (in favour Alesina et al. (2011), against Saint- Paul (2008)) by bringing an empirical perspective to the lively debate on gender-based taxation. I particularly explore the quantitative effect of taxing women and men differently for the Social Security finances.

### **KEY WORDS**

Female participation, two earner households, gender-based taxation, transition

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### JEL CLASSIFICATION

H55, J16, J11

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## **OCCUPATIONAL CHANGE, SKILLS AND GENDER IN THE BELGIAN LABOUR MARKET, 1986-2020**

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### **MOTIVATION**

Studying the change of the occupational structure is important because as some occupation grow and others decline, some groups of workers may lose and others win in terms of income, employment and job quality. Automation and recent technological trends are widely considered to be routine-biased and to lead to job polarization in the occupational structure. However, studying these trends over longer time periods requires good quality data and harmonized time series on occupational change.

### **RESEARCH QUESTION**

The main aim of this research is to produce harmonized time series on occupational change in Belgium for the period 1986-2020. Based on these time series, we study occupation-specific growth/decline rates over this 35-year period, we quantify the degree of job polarization, we compare the evolution in Belgium to that of neighboring countries, and we study the relations between occupational change and worker characteristics (gender, education, age and region).

### **METHODOLOGY**

The construction of longer-term harmonized time series on occupational change in Belgium is complex because of the numerous changes of the occupational classifications used in the Belgian Labour Force Survey. We construct harmonized time series by estimating the number of workers in each detailed occupation in the early years of the survey, using estimated correspondence tables between the old

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and new occupational classifications and relying on earlier methodology developed at the Belgian Federal Planning Bureau.

### RESULTS

We find clear indications of job polarization: the share of workers in routine jobs has declined by about 10 percentage points and the share workers in middle-low skilled jobs has declined by about 20 percentage points. We also find that low educated workers experienced much more 'occupational turbulence' over time.

### CONTRIBUTION

We contribute to the literature on occupational change by constructing harmonized time series on occupational change over the past 35 years in Belgium. We estimate growth rates over this period at the level of detailed occupations, we relate these to worker characteristics and we contribute to the literature on the labour market effects of automation by providing new evidence of job polarization.

### KEY WORDS

Occupational change, job polarization,

### JEL CLASSIFICATION

J21

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# THE IMPACT OF HUMAN CAPITAL DEPRECIATION ON MOTHERS' AND FATHERS' WAGES

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## **MOTIVATION**

The human capital theory identifies human capital depreciation and lost job experience as one of the factors impacting wages. Following this line of thought and given the existence of a strong trade-off between early advantages and late disadvantage in labour market outcomes for individuals with vocational versus general education, and that, on average, skills developed following a vocational path become more easily atrophied compared with those acquired following an academic path; the study evaluates the impact of skill depreciation on the motherhood wage gap.

## **RESEARCH QUESTION**

This study aims to make a novel contribution to the literature by investigating the impact of parenthood on wages. In addition, the present study aims to throw further light on the motherhood wage gap, by investigating the human capital theory as one of the possible explanations for the difference in wage between mothers/fathers and childless individuals.

## **METHODOLOGY**

This study analyses the parenthood wage effect by relying on a difference-in-differences approach. The latter will involve comparing treated individuals, that is mothers/fathers who had a child at a given point in time, with childless women/men, with similar background characteristics. The peculiarity of this approach is that the treatment and the control groups are not defined by an exogenous event. Hence, to justify the results achieved, additional robustness checks for concerns regarding the time window and the threshold chosen are performed.

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## Parallel Sessions IV, Stream A: Gender Differences

### RESULTS

Results uncover inequalities among women and men in terms of parenthood wage effects. Additionally, the results are consistent with the main hypothesis of this study which supports the idea according to which women with a vocational education background suffer from a wider motherhood wage penalty if compared to those women having a general education background. Given that skills acquired through vocational studies depreciate quicker and may require to be updated more often, a birth-related leave will have a higher cost in terms of human capital loss.

### CONTRIBUTION

This study, for the first time, studies the motherhood wage penalty by relying on a difference-in-differences approach. It is also unique in that it is the first to use the difference in the rates of human capital depreciation between vocational and general skills, to evaluate the impact of skill depreciation on the motherhood wage gap.

### KEY WORDS

Motherhood, fatherhood, wage penalty, inequality, education

### JEL CLASSIFICATION

I26, J16, J24, J31

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**Stream B: Immigration and Discrimination**

**SEX-SELECTIVE ABORTIONS AMONG IMMIGRANT  
POPULATIONS: EVIDENCE FROM ITALIAN BIRTH REGISTER  
ADMINISTRATIVE DATA**

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**MOTIVATION**

Preference for sons over daughters coupled with desire for limited family sizes has led sex-selective abortions to arise in several countries, following the diffusion of technologies enabling pre-natal sex determination in the last decades. Concerned countries notably include China and India. While existing evidence finds that in some cases this fertility behaviour is found also amongst immigrants in destination countries, the phenomenon is understudied in most European countries.

**RESEARCH QUESTION**

This research aims to investigate whether the practice of sex-selective abortion occurs among immigrants living in one of the largest EU countries. Italy is ideal for conducting such research since has witnessed sustained flows of immigration from 1989 onwards. In particular, the research aims to establish for which parents' citizenship such fertility behavior is more likely, determine to what extent it is correlated with higher parity, and quantify the implied number of missing women.

**METHODOLOGY**

I am able to capture sex-selective abortions exploiting administrative data on the universe of the Italian births register from 2006 to 2019. Logistic regression models were used to estimate the likelihood of registering the birth of a female rather than

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a male for different population groups, conditional to family size and adjusting for individual characteristics of the parents. The analysis allows me to quantify the implied number of missing women over the 14 years timeframe.

### **RESULTS**

For several parents' countries of citizenship, particularly for India, Philippines and China, the likelihood of registering the birth of a female baby is significantly lower compared to the Italian reference, after controlling for their age, their marital status as well as for province and year fixed effects. The unbalances are stronger for larger family sizes. These results are consistent with the practice of sex-selective abortion.

### **CONTRIBUTION**

This research brings attention to the discriminatory practice of sex-selective abortions among immigrant populations, providing for the first time an extensive analysis of the phenomenon at the national level in the Italian context. Targeted action should be taken in order to tackle this issue, and regular reporting of sex ratios at birth among population subgroups is needed in order to correctly monitor it.

### **KEY WORDS**

Fertility, immigration

### **JEL CLASSIFICATION**

I1

Parallel Sessions IV, Stream B: Immigration and Discrimination

## **INTERMARRIAGE AND COVID-19 MORTALITY AMONG IMMIGRANTS. A POPULATION-BASED COHORT STUDY FROM SWEDEN<sup>2</sup>**

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<sup>2</sup> This study was published in a peer-reviewed journal during the conference paper selection process ("Intermarriage and COVID-19 mortality among immigrants. A population-based cohort study from Sweden", *BMJ Open* 11(9), doi: 10.1136/bmjopen-2021-048952)

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## Parallel Sessions IV, Stream B: Immigration and Discrimination

### **MOTIVATION**

International evidence has shown that immigrants and ethnic minorities are disproportionately at risk of severe COVID-19 complications and death. In the context of an ongoing pandemic, an effort to understand the causes for why some groups are more affected is a public health priority. Among these groups, excess mortality has been suggested to be the result of differential exposure, susceptibility (e.g., pre-existing conditions), and language barriers and access to healthcare.

### **RESEARCH QUESTION**

Does intermarriage (marriage to a native Swedish person) protect immigrants in Sweden from higher COVID-19 mortality?

### **METHODOLOGY**

This is a cohort study with follow-up between March 12, 2020 and February 23, 2021. The data are drawn from Swedish registers, which cover the entire population residing in Sweden. Cox regression models were conducted to assess the association between different constellations of immigrant-native couples and COVID-19 mortality and all other causes of deaths (2019 and 2020). Models were adjusted for relevant confounders.

### **RESULTS**

Compared to Swedish-Swedish couples, both immigrants partnered with another immigrant and a native showed excess mortality for COVID-19 (although it is less pronounced among the intermarried). Moreover, similar results are found for natives partnered with an immigrant, as they are also exposed to an elevated risk of death due to COVID-19.

### **CONTRIBUTION**

This is the only study to date to examine socio-cultural integration as the mechanism behind the disproportionate burden that COVID-19 has placed on immigrant communities, by comparing the mortality of native-native, immigrant-native, and immigrant-immigrant couples in Sweden. These findings challenge hypotheses that poor language proficiency and institutional awareness are major contributing factors explaining the excess mortality from COVID-19 among immigrants.

## Parallel Sessions IV, Stream B: Immigration and Discrimination

### KEY WORDS

COVID-19, immigrants, language barriers, mortality, Sweden

### JEL CLASSIFICATION

I14

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## **THE IMPACT OF DISCRIMINATION ON FUTURE PERFORMANCE: EVIDENCE OF A SELF-FULFILLING PROPHECY FROM THE ITALIAN STUDENT POPULATION**

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### **MOTIVATION**

Discrimination has emerged as a central concern of educational research. A growing literature (Alesina et al., 2018; Botelho et al. 2015) find evidence of teachers' bias in grading minorities. Previous economic research suggests that discrimination may lead to self-fulfilling prophecies by influencing the behavior of discriminated groups in the direction of the stereotypes (Glover et al., 2017). However, the literature on the effects of discrimination on future educational performance is scarce.

### **RESEARCH QUESTION**

What is the impact of discrimination on long-term future school competence? In this study, we identify the presence of grading bias in teachers' assessment and we thus estimate its effect on the affected students, as opposed to peers who are less exposed to subjective under-assessment. Put differently, we estimate the impact of having a biased teacher on future competence.

### **METHODOLOGY**

We use educational data on the entire population of Italian students, which is observed over three periods from primary to middle school. We compare subjective teachers' grade with students' score on standardized blindly graded tests. In this way, we compute a measure of students' under-assessment and of average teacher's bias. We thus estimate the effect of these measures on our proxy of unbiased performance in the next periods using regression models.

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## Parallel Sessions IV, Stream B: Immigration and Discrimination

### RESULTS

We find evidence of grading bias against students with a foreign status. In fact, teachers give lower grades to foreign pupils compared to natives who have the same performance on standardized, blindly-graded, tests. We then estimate the impact of grading under-assessment over future performance, and we find significant negative effects. Grading bias seems to lead to a self-fulfilling prophecy by influencing the behavior of discriminated groups in the direction of teacher assessment.

### CONTRIBUTION

While our work is not the first study to estimate grading bias, the contribution regarding the future effects of this phenomenon remains rather scarce. To our knowledge, this is the first work that uses a measure of ethnic-based grading bias to estimate the impact on future school competence. This is a key research question, as evaluation biases may very well lead to gaps in future scholastic attainments by ultimately realizing the unfavorable self-fulfilling prophecy of discrimination.

### KEY WORDS

Grading bias, discrimination, education

### JEL CLASSIFICATION

I24

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Parallel Sessions IV, Stream B: Immigration and Discrimination

## **HATE IN THE TIME OF COVID: RACIAL HATE CRIMES AGAINST EAST ASIANS**

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### **MOTIVATION**

In the lead-up and aftermath of the first wave of Covid-19 online scapegoating of minorities, particularly those perceived to be Chinese by nationality or ethnicity, became prominent among politicians and other influential individuals. This in turn was followed by an increase in media reporting on hate crimes against Chinese in Western countries with the most serious event occurring in Atlanta, Georgia where 8 women of Asian descent were murdered. In this research we estimate the effect of the Covid-19 pandemic on racial hate crimes against East Asians and other ethnic groups in the United Kingdom.

### **RESEARCH QUESTION**

How did the Covid-19 pandemic impact racial hate crimes by ethnic group in the United Kingdom? Moreover, were changes in racial hate crime associated with changes in containment policies, mobility, and domestic and foreign covid infection levels?

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## Parallel Sessions IV, Stream B: Immigration and Discrimination

### **METHODOLOGY**

We use a variety of estimation methods including regression discontinuity design and event study setting. We combine hate crime data including victim ethnicity obtained by Freedom of Information requests with a range of other sources including government policies, Google mobility data, local, national, and foreign covid cases and deaths, as well as a unique dataset on covid-related tweets.

### **RESULTS**

We find that hate crimes against East Asians increased in early February as cases rose in China. However, by the start of lockdown racial hate crimes decreased significantly across all ethnic groups except East Asians. As the first national lockdown progressed hate crimes returned to expected levels and were significantly higher once the national lockdown ended.

### **CONTRIBUTION**

We are the first to look at temporal effects of Covid-19 on hate crimes across different ethnic groups. In addition, we explore the mechanisms behind the changes in hate crime levels by considering the roles of containment policies, economic aid, and domestic and foreign infection levels.

### **KEY WORDS**

Covid, hate crime, xenophobia, RDD, event study

### **JEL CLASSIFICATION**

J15, C23, D63

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## **EXPOSURE TO HIGH-SPEED INTERNET AND EARLY CHILDHOOD DEVELOPMENT**

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### **MOTIVATION**

In recent years, new information and communication technologies have become a ubiquitous element of everyday life (Rideout et al., 2013). Children have become increasingly exposed to a more frequent use of devices connected to high-speed internet, which could have an effect in the achievement of their developmental milestones. Early childhood constitutes a crucial life period due to its high sensitivity for cognitive, socio-emotional, motor and language development (Heckman, 2008; WHO, 2020).

### **RESEARCH QUESTION**

This paper analyzes the effects of exposure to high-speed internet in early childhood. The effect of fiber optic is approximated by the exposure of the child to fiber optic accessibility in the neighborhood. This allows us to identify the intention-to-treat effect, that is, the effect of fiber optic becoming accessible in the dwelling, which in turn affects the possibility of purchasing a fiber optic internet plan. Ultimately, this would rise connection speed affecting internet consumption decisions, and thus increasing screen exposure of the child and the caregiver.

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## **METHODOLOGY**

To conduct the analysis, we exploit geographic differences in the timing of fiber optic roll-out since 2011, to analyze the effects of internet use in developmental outcomes of children between 0 and 5 years of age. Combining administrative data on the geographical differences in the timing of fiber-optic penetration, with survey data on cognitive and non-cognitive outcomes for children born between 2010 and 2018, we estimate the intention-to-treat effects of fiber optic on several psychometric tests

## **RESULTS**

Results show a deterioration in children's outcomes caused by an increase in internet connectivity. Significant decreases between 10% and 18% of a standard deviation are found in the areas of Communication, Problem Solving and Personal-Social. By sex, the results show no differences among girls and boys except for problem solving, being girls more negatively affected. Considering the education of the caregivers, children with highly educated caregivers show stronger negative results. Children living in smaller cities are more affected by high-speed internet exposure.

## **CONTRIBUTION**

This paper contributes in several ways: provides evidence for the effects of high-speed internet at the population level for a crucial period of life; conducts the analysis by taking advantage of high-quality outcomes, as are child psychometric tests; provides evidence for a developing country, allowing to study the challenges of new technologies in vulnerable contexts. To the best of our knowledge, this is the first research that studies the effects of exposure to high-speed internet in early childhood exploiting an exogenous source of variation.

## **KEY WORDS**

Child development, internet, screen exposure

## **JEL CLASSIFICATION**

D60, I30, J13

## Parallel Sessions V, Stream A: Infant Health and Child Development

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**CAN EARLY UNIVERSAL PRESCHOOL REDUCE CHILD  
DEVELOPMENT INEQUALITIES? THE ROLES OF INTENSITY AND  
LENGTH OF EXPOSURE IN FRANCE USING ELFE FRENCH CHILD  
COHORT**

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**MOTIVATION**

Early years are particularly important for the children's cognitive and non-cognitive skills. High quality early childhood education and care programs can foster this development, but it is not easy to establish a causal link. Most evidence from the US, where settings much more heterogeneous than in Europe, and heterogeneity linked to SES. Most studies have focused on estimating overall program influences on child development; but not on what aspects of preschool programs (age at entry, intensity, and duration) matter most.

**RESEARCH QUESTION**

Does universal public pre-school promote child development? Does length of exposure matter? What about other program features such as intensity? Is there heterogeneity in effects by family socioeconomic status?

**METHODOLOGY**

We estimate the effect of attending a universal free preschool program (école maternelle), using nationally representative French Elfe birth cohort. We use two indicators of child development: the cognitive British Ability Scale and an overall test based on 44 questions in different domains (socialization, autonomy, language,

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motor skills) filled by parents. Both tests were assessed at the same age (3.5 years), irrespective of the time spent in school allowing us to measure school effects.

### **RESULTS**

Our results provide plausibly causal evidence that universal preschool programs have the potential to both foster children's early cognitive skills and reduce early socio-economic inequalities. Length of exposure matters for improved cognitive skills and overall skills, while intensity of preschool hours appears to be less important. Children from more disadvantaged backgrounds appear to reap particularly large cognitive benefits from a longer duration in preschool.

### **CONTRIBUTION**

Our results provide plausibly causal evidence that universal preschool programs (as exemplified by the French école maternelle program) have the potential to both foster children's early cognitive skills and reduce early socio-economic inequalities.

### **KEY WORDS**

Child development, preschool, inequalities, BAS, early childhood

### **JEL CLASSIFICATION**

J13 J18 I24

## **MATERNAL AND NEWBORN'S HEALTH CONSEQUENCES OF MATERNITY UNITS CLOSURE: EVIDENCE FROM A FRENCH ADMINISTRATIVE DATABASE**

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### **MOTIVATION**

Over the course of 40 years, the number of maternity unit in France has been divided by 2.8. Even though it is argued that closures are primarily for safety reasons, it raises two questions: does the closure of maternity units create inequalities in terms of access to perinatal care? What effects does it have on infants' and mothers' health? Closure could make access to care more difficult for expecting mothers because it increases time and/or distance needed to reach them.

### **RESEARCH QUESTION**

This phenomenon could both reduce incentives for women to follow prenatal care checkups and make reaching maternity units for deliveries harder. As a consequence, the number of out-of-hospital deliveries in unsafe conditions or the number of planned deliveries could increase. Therefore, my research question is twofold: do maternity unit closures have an impact on the health of mothers and infants? If so, is it due to the increased time/distance needed for women to reach maternity units?

### **METHODOLOGY**

I use an administrative database on health facilities to identify every maternity units in France and their time of closure if so. From this, I compute time variation to reach the (x) closest maternity unit(s), by year. To measure the effects of closure on perinatal health indicators (measured at the maternity level), I choose as a

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treatment group the x closest maternity units to a maternity unit y that closed and measure the effects of that closure y on their perinatal health indicators.

### RESULTS

Results are still preliminary. Being closest to a maternity unit that closed increase the number of deliveries the following years, as well as the numbers of cesarean section deliveries. Both results are statistically significant at conventional levels. Next results will be on perinatal health indicators as outcomes of interest such as birthweight, premature status, rate of urgent cesarean section deliveries... I plan to use the number of beds available as an additional variation of treatment.

### CONTRIBUTION

My contribution to this literature is first using comprehensive and yearly administrative data on health facilities, which allows me to identify maternity units, as well as their equipment (number of beds) and medical staff between 2000 and 2018. Perinatal health indicators are yearly and comprehensive, albeit restricted to 2013 to 2018 for now. To compute time and distance, I use a software that take into account both the intensity of road-traffic and the actual road-map.

### KEY WORDS

Perinatal care, spatial inequality, demography, France, health services

### JEL CLASSIFICATION

J130, I140

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Parallel Sessions V, Stream A: Infant Health and Child Development

## **COMMUNICATION BARRIERS AND INFANT HEALTH: INTERGENERATIONAL EFFECTS OF RANDOMLY ALLOCATING REFUGEES ACROSS LANGUAGE REGIONS**

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### **MOTIVATION**

Language proficiency is widely regarded as the most important component of immigrants' human capital for a successful participation in the host society. In this study, we demonstrate that an exogenous attribution of local communication skills affects child health at birth of the immigrants' children.

### **RESEARCH QUESTION**

How do exogenously assigned communication skills to recent immigrants affect their children's health at birth?

### **METHODOLOGY**

We leverage the refugee allocation policy in Switzerland, which randomly assigns newly arriving asylum seeker proportionally to one of the country's 26 cantons and, therewith, to one of three distinct language regions (German, French, Italian). The interaction of the refugee mother's country of origin language with the language at destination define the language match indicator that allows us to estimate the causal effect of a familiar language environment on the descendants' health.

### **RESULTS**

Children born to mothers who were exogenously allocated to an environment that matched their heritage language are on average 72 grams (2.2%) heavier than those born to mothers who were allocated to an unfamiliar language environment. The

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differences are due to growth rather than gestation and manifest in a 2.9 percentage point difference in low birth weight incidence. We find substantial dose-responses in terms of language exposure in both the origin country and the destination region.

### **CONTRIBUTION**

We provide causal evidence for the importance of language skills, where identification is inherently challenging due to the endogeneity of (language) skill. Our findings provide strong evidence that the intergenerational transmission of inequality already takes place during pregnancy, thereby highlighting the importance of early policy intervention to counter systematic disadvantages of vulnerable groups.

### **KEY WORDS**

Infant health, language proficiency, refugee allocation, networks

### **JEL CLASSIFICATION**

F22, I12, J13, J24, J61, J62

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## **THE IMPACT OF UNEMPLOYMENT FLOWS ON HEALTH: A PANEL EVENT STUDY**

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### **MOTIVATION**

The relationship between unemployment and health has been examined extensively but the direction of this association has yet to be determined. Several cross-sectional studies report a negative correlation between health and unemployment (Urbanos-Garrido & Lopez-Valcarcel, 2015; Farre et al., 2018), while the empirical evidence drawn from longitudinal data conclude that the causal impact of unemployment on health cannot be established (Schmitz, 2011).

### **RESEARCH QUESTION**

We aim to assess the relationship between unemployment and health outcomes (self-assessed health, chronic conditions and health limitations) in Greece during the period 2003-2020, covering diverse stages of the business cycle. The main objective of the paper is to identify whether a labor market shock (unemployment inflow) at the individual level causally affects health outcomes.

### **METHODOLOGY**

Since the timing of the arrival of any labor market shock differs between individuals, the estimation of the causal impact of an unemployment shock on health becomes

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challenging. We apply a panel event study approach that resolves the issue of the heterogeneous treatment effects over time since it allows for the unemployment events to occur at any point in time during the period of analysis.

### RESULTS

According to our results the health outcomes of those individuals who enter unemployment, at any time during a course of 4-years, do not change their health status after this type of labor market shock. This finding is robust for the entire period under examination but also for a sub-period of rising unemployment rates. The same conclusions are reached when the heterogenous impact of this shock has been examined across gender, age, education and region.

### CONTRIBUTION

Our contribution lies in the model specification that allows for a well-structured construction of unemployment inflows and eliminates selection bias towards causal inference (Böckerman & Ilmakunnas, 2009; Schmitz, 2011; Gebel & Voßemer, 2014).

### KEY WORDS

Labor market flows, self-assessed health, Greece

### JEL CLASSIFICATION

J01, J64, I10

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## **THE EFFECTS OF UNEMPLOYMENT ON HEALTH, HOSPITALIZATIONS, AND MORTALITY – EVIDENCE FROM ADMINISTRATIVE DATA**

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### **MOTIVATION**

Linking health to employment history of entire Slovenian workforce, the paper employs three innovative features: it addresses the reverse causality by tracking only healthy individuals and relying on mass layoffs to provide an additional layer of exogeneity to unemployment; it uses data on drug prescriptions to infer information about the health status of individuals; and it treats the health effects of unemployment as part of a dose–response relationship.

### **RESEARCH QUESTION**

We study how unemployment affects the hazard of cardiovascular diseases, diabetes, and mental disorders, as well as of hospitalizations caused by these diseases, over a 15-year horizon. We also study how unemployment affects mortality due to the studied groups of diseases.

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## **METHODOLOGY**

Our empirical strategy of estimating the health effects of unemployment consists of estimating hazard rate models. In these models, we include exposure to various labor market states – in our case, unemployment being of key interest – in the preceding 15 years as the key explanatory variables (we include separate variables for exposure in the past 5 years, in the past 6–10 years, and in the past 11–15 years). We measure labor market exposure as share of time spent in a certain state.

## **RESULTS**

The paper finds that, in comparison to employed persons with permanent contracts, persons experiencing unemployment face an increased hazard of all three studied groups of diseases – cardiovascular diseases, diabetes, and mental disorders – as well as of hospitalizations caused by these diseases, over a 15-year horizon. The results also show that unemployment significantly increases the probability of death due to cardiovascular diseases and mental disorders, as well as death of any cause.

## **CONTRIBUTION**

To our knowledge, our paper is the first one that uses drug prescription data to study the causal effects of unemployment on the health status of individuals. Such data allows us to track individuals over long periods, thus enabling the estimation of long-term effects. It also allows for a new, powerful way of controlling for reverse causality, particularly when combined with a standard approach in the literature using worker displacement as the source of unemployment.

## **KEY WORDS**

Unemployment, mortality, cardiovascular diseases, diabetes, mental disorders

## **JEL CLASSIFICATION**

J64, I12, C23

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## **NURSES AS HUMAN VACCINATION REMINDERS**

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### **MOTIVATION**

A large literature documents the importance of early childhood circumstances for later-life outcomes. While a growing part of this literature focuses on the importance of public policies and parental health investments, most existing empirical studies consider each in isolation. We still know little about the importance of the timing, sequence and interaction of public and private investments. Evidence on these interactions is instrumental for the design of policies aiming to support child development.

### **RESEARCH QUESTION**

This paper contributes to the research agenda of understanding the ways in which public and private investments in child health interact. Specifically, we examine whether early-life public health policies impact private health behaviors, in our case parental uptake of infant vaccinations in Denmark.

### **METHODOLOGY**

To study how nurse visits impact parental uptake of infant vaccinations, we need credibly exogenous variation in the exact timing of nurse visits. In the absence of random assignment, we focus on children from families, who have nurse visits in a relatively narrow time window: We compare the outcomes of children in a treated group of families, who receive a nurse visit in the two weeks leading up to the recommended age of a given vaccination, to the outcomes of children in a control group of families.

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## RESULTS

Our results demonstrate that timely nurse visits have short run effects on parental vaccination uptake: Treated parents have a higher probability of timely uptake of the three and five months vaccinations compared to control parents. Examining the longer-run behavior of parents, who received a nurse visit prior to the first vaccination, we find that those parents also are more likely to adhere with future vaccinations in a timely manner.

## CONTRIBUTION

Our paper makes three distinct contributions to the existing literature: First, we examine how public policies impact parental health behaviors by focusing on the causal impact of the timing of nurse visits on parental decisions about uptake of vaccinations. Second, by providing evidence from a universal public health intervention, we complement research on targeted programs. Third, we contribute to an established literature on the determinants of vaccination uptake.

## KEY WORDS

Vaccination adherence, health behavior, nurse home visiting, event study, Denmark, administrative data

## JEL CLASSIFICATION

I1

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## **OFFICE VISITS PREVENTING EMERGENCY ROOM VISITS: EVIDENCE FROM THE FLINT WATER SWITCH**

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### **MOTIVATION**

Emergency departments (ED) are an expensive alternative to primary care. For those who lack access to primary care, however, they are often the only option (Grumbach et al., 1993). While expanded access to Medicaid (the U.S. government health insurance for the poor) increases ED usage (Taubman et al., 2014; Nikpay et al., 2017), no study has been able to isolate the causal link between increased primary care and ED usage for those who are already eligible for Medicaid.

### **RESEARCH QUESTION**

In September 2015, Flint issued a lead advisory, alerting residents of increased lead levels in drinking water from the switch in water source from Lake Huron to the Flint River. We treat this advisory and the accompanying national news as an information shock. We establish whether knowledge of the problems affected healthcare receipt. We then examine whether a change in primary care use causes a reduction in ED visits, including those that are treatable or preventable with primary care.

### **METHODOLOGY**

Through an agreement with the Michigan Department of Health and Human Services, we link vital records for all children born in Michigan in 2013–2015 with

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Medicaid claims files. We classify all claims for care provided in the ED using the New York University Emergency Department visit severity algorithm (Billings et al. 2000). This research allows us to track the use of medical services by children born in Flint and compare them to similarly aged children born elsewhere in Michigan.

### RESULTS

We find that the advisory increased lead tests by 49%, increased office visits immediately, and reduced preventable, non-emergent, and primary-care-treatable ED visits per 1000 eligible children by 8.3%. Comparing the office visit and avoidable ED visits across several common conditions, we see a negative linear relationship between the two, with a greater increase in the share of children having any office visits causing a greater reduction in avoidable ED visits per capita.

### CONTRIBUTION

Local fiscal policy matters and decisions about water supply have far reaching consequences. Proper testing, public comment periods, elected local control, and transparency in testing all play substantial roles in the population health of communities. Second, primary care is important and is underutilized, even for those on Medicaid. Policies that further encourage parents to ensure that their children are up-to-date on their well visits could help keep those children out of the ED.

### KEY WORDS

Medicaid, lead, environmental regulation, emergency

### JEL CLASSIFICATION

H75, I12, I18, J13, Q53, Q58

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**Stream C: Health and Inequality in the Western Balkans**

**PROBLEM GAMBLING AND TYPE OF GAMBLING IN SERBIA: THE  
ROLE OF DEMOGRAPHIC AND PSYCHOSOCIAL FACTORS**

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**MOTIVATION**

Problem gambling has been recognized worldwide as an emergent public health issue. Previous studies have shown that problem gambling is associated with psychological, social and financial consequences, which are not only restricted to the individuals, but also extend to their families and the community as a whole.

**RESEARCH QUESTION**

Although many studies were conducted on the prevalence of problematic gambling, there is a lack of research focused on the role of demographic and psychosocial factors in explaining the risk for potentially harmful gambling. Besides, specific types of gambling (such as lottery, sports betting, casino games, slot machines) haven't received enough attention, despite the well-known differences in their addictive potential. Therefore, our aim was to explore the role of

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demographic and psychosocial factors in predicting both the problem gambling and the lifetime participation in specific type of gambling.

### **METHODOLOGY**

We used the data from two cross-sectional designed national surveys on lifestyles in Serbia adult population conducted in 2014 (N=5385) and 2018 (N=2000). The questionnaire used, developed on the basis of the EMCDDA European Model Questionnaire, consisted of 158 items related to socio-demographic variables, gambling (Lie/Bet screen; type of gambling), tobacco and illicit drugs use, alcohol issues (RAPS) and psychological distress (Kessler-6). Logistic regression was used in the analyses.

### **RESULTS**

The results showed that male sex, any drug lifetime use, risky drinking, unemployment and smoking  $40 \geq$  cigarettes per day are predictors of problem gambling, where the highest contributor is drug use. Lottery playing is best predicted for persons of age 45 to 54, high school education and mild to moderate level of distress. Being male, younger than 55, not married, high school educated with poor material status, mild to moderate level of distress, risky alcohol use and the use of any drug is a predictor of sports betting. Male sex, age 25 to 34, mild to moderate level of distress, smoking  $40 \geq$  cigarettes per day and the use of any drug are predictors of lifetime participation in casino games. Similarly, being male, aged 25 to 44, with the lifetime use of any drug is predictive of participation in slot machines.

### **CONTRIBUTION**

The most prominent finding is that lifetime use of any drug is a consistent predictor of problem gambling and the lifetime participation in casino games and slot machines. Even though the results are not pointing to the direction of influence, they provide a valuable insight on relation between public health concerns and thus can be seen as the input for development of evidence-based policies. The future studies should include longitudinal design in order to clarify the pathways of influence.

### **KEY WORDS**

Problem gambling, casino games, slot machines, drug use

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### JEL CLASSIFICATION

I12, J10

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## **HOW DO PRICES OF MANUFACTURED CIGARETTES AND ROLL-YOUR-OWN TOBACCO AFFECT DEMAND FOR THESE PRODUCTS? TOBACCO PRICE ELASTICITY IN WESTERN BALKAN COUNTRIES**

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### **MOTIVATION**

Western Balkan (WB) region is characterised by high levels of tobacco consumption if compared to the EU (EC, 2021). High tobacco prevalence, which ranges from 32 percent in Albania to 46 percent in Kosovo (Zubovic, Vladislavljevic, et al., 2019), imposes significant economic and health burden for the WB societies. This research analyses tobacco price elasticity in six WB countries aiming to provide arguments for developing more effective taxation policies in the region which could result in lower demand for tobacco products.

### **RESEARCH QUESTION**

Research aims to estimate price elasticities of the two most frequently used tobacco products in the WB countries - manufactured cigarettes (MC) and roll-your-own (RYO) tobacco. Additionally, it examines cross-price elasticities trying to detect

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whether higher prices of MC results in lower consumption of RYO and vice versa (Huang et al., 2018; US NCI, 2016; Kostova et al., 2010).

### **METHODOLOGY**

We estimated own and cross- price elasticities of MC and roll RYO tobacco by using the methodological framework of the two-part model (Belotti et al. 2015; Manning et al. 1998; Mullahy et al. 2001), regional variation in prices, and 2019 Survey on Tobacco Consumption (STC-SEE) in SEE countries. STC-SEE data provide a nationally representative sample of adults (18-85 years old) for each country. The sample size was 7,000 respondents in total (2,000 respondents were interviewed in Serbia and 1,000 per each of 5 other countries).

### **RESULTS**

Results suggest that higher prices of MC are associated with lower prevalence of MC use, while higher prices of RYO are associated with lower intensity of RYO use. Furthermore, regions with higher MC prices have a higher likelihood of using RYO over MC, suggesting that RYO is used as a cheaper alternative to MC. Lower smoking prevalence and intensity are associated with more smoking restrictions and support for tobacco price increases.

### **CONTRIBUTION**

This research is the first to analyse cross-price elasticity of the two most frequently used tobacco products in the WB – MC and RYO. It confirms that the main reason behind high tobacco prevalence refers to inadequate taxation policy. Aiming to decrease smoking prevalence and intensity, governments should increase excises on tobacco products, taking into account that excise increases are harmonized in order to avoid risks of downward substitution.

### **KEY WORDS**

Tobacco, price elasticity, prevalence, taxation, Western Balkan

### **JEL CLASSIFICATION**

I18, P36, H21

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## **CITIES IN THE PROCESS OF CLIMATE CHANGE MITIGATION: EVIDENCE FROM SERBIA**

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### **MOTIVATION**

Cities are a key player in the fight against climate change. About half of the world's population now lives in cities and it is expected that the share of the urban population in the total will become even higher in the future, and that by 2030 it will reach about 2/3. Everyday life and functioning of the city imply the use of a large amount of energy. As a result, cities emit approximately 70% of a country's greenhouse gas (GHG).

### **RESEARCH QUESTION**

The growing importance that cities are gaining in the process of climate change mitigation is a consequence of the fact that cities are more flexible and practical than nation states. Cities have transformed from a “passive implementer” to an “active co-decision maker” in the context of climate change management at EU level. The aim of this research is to examine the presence of public policies in Serbian cities in the field of climate change mitigation.

### **METHODOLOGY**

The Index of local climate protection (ILCP) was used to assess the prevalence of measures to combat climate change in local public policies in Serbian cities. Index examines the extent to which city administrations are engaged in 5 key areas for climate change mitigation. The questionnaire sent to the cities' administrations, with which we obtained the necessary information, contains a total of 38 questions. Based on the obtained answers, the value of ILCP for Serbia in 2021 was calculated.

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## RESULTS

Based on the results from the questionnaire, it was concluded that ILCP in Serbia is very low, i.e., that at the local (city) level in Serbia, measures to mitigate climate change are poorly represented. Weak use was identified in all 5 analyzed dimensions: implementation and evaluation of local climate protection activities, energy consumption in the domain of local government, urban planning and private real estate, city traffic and transport and “soft” management regimes.

## CONTRIBUTION

The main contribution of the paper is that, to our knowledge, for the first time, measures for climate change mitigation at the level of cities in Serbia are comprehensively and systematically analyzed. The obtained results represent a good basis for further research in this area, but also a guideline for policy makers at the city level, in order to focus their future efforts in those areas where there is the greatest room for progress in combating with climate change challenges.

## KEY WORDS

Climate change, cities, energy efficiency, GHG, Serbia

## JEL CLASSIFICATION

P28, Q54, Q58, R11

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## **ANALYSIS OF THE CORRELATION BETWEEN INEQUALITY AND HEALTH: THE SPIRIT LEVEL IN POST-SOCIALIST SERBIA?**

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### **MOTIVATION**

Income and wealth inequality is a challenge that will be faced throughout the course of XXI century (Milanovic 2019). Paper seeks to investigate correlations in increased income inequality and decreases in the standard of living in Serbia, in a transitional and post-socialist economy.

Following Wilkinson and Pickett (2010), paper aims at filling a gap in the current literature regarding the lack of empirical studies that address the impact of inequality on health and social problems in middle-income economy countries (World Development Indicators)<sup>3</sup>. Countries in the category of Medium Income were systematically excluded in Wilkinson and Pickett (2010) analysis due to relationship between life expectancy and differences in Gross National Income per head (GNIPC). Thanks to normalised indicators, the aim of this paper is to provide an argument in favour of this claim thanks to the case-study of Serbia.

### **RESEARCH QUESTION**

The research will primarily deal with the largely-accepted thesis that the deeper is the social class gradient of health and social problems, the more strongly they are related to inequality.

In an attempt to answer to the following Research Questions:

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RQ (1): To what extent may a correlation between rising income inequality and health and social problems be identified in post-socialist and transitional Serbia?

RQ (2): Which suggestions may be drawn from the implementation of Wilkinson and Pickett's analysis of the Spirit Level in a middle-income economy?

### **METHODOLOGY**

Applying a comparative approach, an Index of Health and Social Problems for Serbia will be constructed, based on several indicators that aim to point the overall wellness of Serbian society. We use normalised and log-transformed indicators to construct the Index, with internationally comparable data. Measures are provided by official agencies rather than by our own's calculations, in order to be consistent with Wilkinson and Pickett's method (2010).

The final list of indicators includes health problems such as: Life Expectancy at Birth; Infant-Mortality Rate (per 1,000 Life Births); Prevalence of Obesity (%) and Teenage Mothers Rate (%) (World Bank, 2020). In addition, some social problems will be taken into account, namely: Mean Trust Level Rate (Eurobarometer, 2021; European Bank of Reconstruction and Development, 2016); Average Children Educational Performance (OECD, 2018); Intentional Homicides (per 100,000 People) (World Bank, 2020); Incarceration Rate (Per 100,000 Inhabitants) (Statista, 2021); and finally, the Social Mobility Index (World Economic Forum, 2020).<sup>4</sup>

The so-designed index will be analysed in comparison with income inequality in order to detect any linear correlations thereof in relation to The Spirit Level (2010).

### **RESULTS**

The research shows consistent results to Wilkinson and Pickett's (2010) analysis and that greater equality is beneficial at level of Medium Income, too.

In particular, the paper provides an argument in favour of claiming the existence of a deep social gradient for health and social problems within a middle-income society and in favour of a positive correlation with income and wealth inequality.

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<sup>4</sup> Compared to the original Wilkinson and Pickett's analysis (2010), one indicator only will be excluded from the construction of the Index, namely: Mental Illness Rate (%) due to the impossibility to have reliable data for Serbia (WHO, 2017).

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### ORIGINALITY VALUE

To the best of our knowledge, this is the first paper that presents that there is a relationship between inequality and rising health and social issues for the above-mentioned group of countries (namely, middle-income economies).

### CONTRIBUTION

Given that Serbian income and wealth inequality has been constantly rising since its shift to a free-market economy, this paper aims to contribute to examining how wealth and income inequality may lead to further social inequality and inequality in health outcomes.

Another contribution appears in terms of originality: the analysis of The Spirit Level (2010) applies to industrialised and rich countries, while transitional, developing and post-socialist societies are rarely addressed from this perspective.

### KEY WORDS

Social and health issues, income inequality, welfare, well-being, Serbia

### JEL CLASSIFICATION

D63, I14, I31

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CIP - Каталогизација у публикацији Народна библиотека Србије, Београд

331.5(048)

37(048)

614(048)

364.658(048)

**INTERNATIONAL scientific conference Applied economics conference:  
labour, health, education and welfare (2021 ; Beograd)**

Book of abstracts / International scientific conference Applied economics conference: labour, health, education and welfare, october 28-29, 2021 Belgrade ; editors Lara Lebedinski, Dejana Pavlović, Sunčica Vujić. - Beograd : Institute of economic sciences, 2021 (Beograd : Donat graf). - 178 str. ; 24 cm

Tiraž 80.

ISBN 978-86-89465-59-4

а) Тржиште рада -- Апстракти б) Образовање -- Апстракти в) Здравство -- Апстракти г) Благостање -- Апстракти

COBISS.SR-ID 49069577



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